

Northeast SARE Professional Development Program Annual Report

1. **State:** Pennsylvania
2. **Land-Grant Institution:** The Pennsylvania State University
3. **Report Period:** May 1, 2005 to April 30, 2006
4. **Title: Progress Report on the 2005/2006 Implementation of the Statewide Strategic Plan for the Long-Term Sustainability of Pennsylvania Farms**
5. **Project Contact (State Extension Leader for SARE):**
Name: Dr. William Curran
Address: 116 ASI Building

University Park, PA 16802

Phone: 814-863-1014 Fax: 814-863-7043 E-mail: wcurran@psu.edu

6. **Project Narrative:**

The Pennsylvania State University, through the cooperative extension system, has a large force of professional agricultural educators who have experience and who have been successful in implementing new ideas in agriculture. A number of our extension educators in Pennsylvania have job responsibilities in sustainable agriculture. Many others have an interest in sustainable agriculture, and sustainability is already a part of their programs. Much of the funding this past year was used to support travel expenses for educators to attend continuing education activities. A number of sustainable agriculture professional development activities were encouraged and sponsored by USDA NE-SARE and the State PDP Coordinator in 2005/06. Working with the PSU SAWG, production of the newsletter and two new list-servs as are some of the successful activities that occurred in 2005/06. A continuing goal is to increase understanding of and programming around sustainable agriculture by Pennsylvania extension educators and others (such as USDA personnel). The initiation of educational activities oriented toward sustainable agriculture by faculty and field based educators this past year, reflects many positive efforts across the college to address needs of agricultural producers seeking to become / remain sustainable.

7. **Current Northeast SARE-funded PDP State Activities:**

- Sustainable Agriculture Working Group
- A Sustainable Agriculture Newsletter
- A Needs Assessment process involving a series of Listening Sessions - completed
- On Farm Research / Demonstrations
- Farmer - Grower Publication – in progress

- PASA Conference educator participation
- USDA SARE Educational Display at PASA Conference
- Professional development educator participation
- Educator participation in several sustainable ag meetings/conferences

8. Sustainable Publications/ Educational Materials and Products:

Initiatives from PSU-SAWG

- Maintain a **sustainable ag directory** of University Park and Extension educators with interests in sustainable and organic ag. The directory is located at: <http://www.ento.psu.edu/extension/sustainableAg/default.html>.
- Revising/updating the PSU Sustaining Agriculture **website**: <http://susag.cas.psu.edu>
- A PSU-SAWG **website**: <http://sawg.cas.psu.edu>
- Sustainable Ag **newsletter** (available electronically via <http://sawg.cas.psu.edu>)
To subscribe, e-mail lsm9@psu.edu
- New Sustainable Ag Listserv's started at Penn State - There are two new Sustainable Ag Listserv's available at Penn State. "**Pa Sustainable Ag**" (**PASUSAG**) is a broad-based listserv that is intended as an announcement list for Penn State personnel as well as others (PASA, PCO, NRCS, etc.) in the region to promote and discuss sustainable ag issues. Responses to emails will be addressed **ONLY** to the original sender and only the list administrators are allowed to send messages to the list. This list can be used to announce field days, workshops, and other important sustainable ag activities across the region. To subscribe to this list send a blank e-mail message to join-pasusag@lists.cas.psu.edu. To unsubscribe from this list, send a blank e-mail message to leave-pasusag@lists.cas.psu.edu

The second List "**Sustainable Ag at Penn State**" (**SUSAGPSU**) is a discussion list intended for Penn State personnel (faculty, staff, students, county-based educators, etc.) interested in Sustainable Agriculture. **ONLY** List members are allowed to send messages to the list and responses will be addressed to **ALL** members of the List. Only Penn State personnel may be members. To subscribe to this list, email Lisa Cryster (lac8@psu.edu) in the Department of Crop and Soil Sciences a request to **join the Sustainable Ag at Penn State list** (susagpsu@lists.cas.psu.edu).

Recent Publications

New Agricultural Alternatives (viewable at <http://agalternatives.aers.psu.edu/>)

- Garlic Production – T. Ford, S. Bogash, M. Orzolek and L. Kime, J. Harper
- Developing a Roadside Farm – J. Dunn, J. Berry, L. Kime, R.M. Harsh, and J. Harper

Others (viewable at <http://pubs.cas.psu.edu/>)

- Ag Map – Promoting Pennsylvania agriculture – two page color flyer promoting agricultural enterprises in PA (<http://pubs.cas.psu.edu/FreePubs/pdfs/uc174.pdf>)

- Steps Toward Successful No-till – S. Duiker and J. Myers. A 32 page color circular (<http://pubs.cas.psu.edu/FreePubs/pdfs/uc192.pdf>)

9. Performance Targets/Milestones:

Performance Targets:

- The PSU Sustainable Ag Working Group (PSU-SAWG) will continue to help develop a cohesive state-wide program in sustainable agriculture. Success will be monitored through a review of program progress at periodic group meetings.
- At least 50 county-based educators, USDA NRCS personnel, and other agricultural professionals will attend programs that target sustainable agriculture education. The target will be assessed through meeting attendance and meeting evaluations.
- At least 10 county-based educators will incorporate new sustainable agriculture concepts or new educational methods they gained on a field trip/ meeting/ workshop/ etc. into the educational programs they deliver. The target will be monitored through meeting evaluations and as reported results in the statewide WEB-based reporting system.
- Working relationships will continue to be strengthened between PSU Cooperative Extension and sustainable agriculture partners.

Milestones:

- PSU-SAWG will meet 3 to 4 times per year to discuss PDP priorities, activities, progress, and budget.
- Local “listening sessions” across Pennsylvania related to sustainable agriculture programming needs will be complete and summarized in 2005.
- At least 15 county-based educators, USDA NRCS staff, and other agricultural professionals will attend an on-farm demonstration and field day focused in sustainable crop production.
- At least 15 extension educators (agents, faculty and staff) will participate in the Future of Food and Farms Summit in December 2005, in support of the “Sustainable Local Food Systems” key topic area.
- At least 15 extension educators (agents, faculty and staff) will participate in the farmer producer seminar series hosted by the Department of Crop and Soil Sciences during fall semester, 2005.
- At least 15 extension educators (agents, faculty and staff) will participate in the annual PASA conference in February 2006.
- At least six farm labor management issues will be addressed in workshops aimed at extension educators, USDA personnel, agricultural professionals, and producers (Farm Labor Issue focus).

10. Accomplishments/Milestone Results:

1. PSU-SAWG will meet 3 to 4 times per year to discuss PDP priorities, activities, progress, and budget.
 - PSU-SAWG met 3 times thus far this year. A draft strategic plan was prepared for the period 2006-2009.

The overarching objectives of this first strategic plan for PSU SAWG are to articulate the mission and vision of the group, and to provide a framework of goals, strategies, and actions that transform the group from an innovative grassroots information-sharing network to a highly visible and effective organization in service of the college, Pennsylvania and the region. The plan also addresses PSU SAWG's role and contributions to achieving strategic goals of the College of Agricultural Sciences and the University

Some specific goals of PSU-SAWG are to:

- Obtain college and university support for a coordinated, staffed and funded program in sustainable agriculture and food systems;
 - Create and maintain a visible and coordinated research, education and outreach effort centered on sustainable agriculture (including forestry) and food systems for PA and the region;
 - Obtain land dedicated to conduct long-term interdisciplinary sustainable agriculture research, teaching and demonstration, including agroforestry and integrated plant-animal agriculture;
 - Increase the contributions, visibility, stature, effectiveness, diversity and responsiveness of the college to basic and applied research in the areas encompassed by sustainable agriculture, education and outreach;
 - Foster a flow of information between the sustainable agriculture and food systems and the university communities;
 - Use a holistic, diversified and interdisciplinary, multi-functional approach that is inclusive of Penn State, NGOs, and state and federal agencies;
 - Support research in sustainable agriculture through obtaining Sustainable Agriculture Graduate Assistantships.
2. Local "listening sessions" across Pennsylvania related to sustainable agriculture programming needs will be complete and summarized in 2005.
 - These listening sessions were completed in 2005. A summary is provided in the **Attachments Section**.
 3. At least 15 county-based educators, USDA NRCS staff, and other agricultural professionals will attend an on-farm demonstration and field day focused in sustainable crop production. Travel to other activities was also supported with PDP funding.
 - A. This past year, field day activities took place on three farms where about 12 county-based educators and 175 growers and agricultural professionals attended. Evaluations were conducted at the field days and participants responded very positively about the educational activities. Field demonstrations using cover crops have been established at three farms in preparation for field day activities in 2006.
 - B. Fifteen county-based and state-wide educators participated in an on-farm organic production in-service and toured three farms on June, 14 2005. They heard about organic grain production, manure management in no-till, and hog production. (partial travel reimbursement was provided using PDP funds).

- C. Sixteen county-based educators attended a two-day in-service at University Park on Nov. 17/18, 2005 where they received a research update plus a CD-ROM with 10 MS PowerPoint presentations (train the trainer) on topics related to sustainable crop production. Topics included weed ID, organic ag basics, and field crop insects. (partial travel reimbursement was provided using PDP funds).
 - D. Several Penn State educators attended the National SARE meeting in Burlington VT during Fall, 2005. (partial travel reimbursement was provided to four individuals using PDP funds).
 - E. Six Penn State educators attended the WAgN conference in Vermont in December, 2005. (partial travel reimbursement was provided for four individuals using PDP funds). Comments are provided in the **Attachments Section**.
 - F. One Penn State educator received travel reimbursement to attend the SARE Conference on Climate Change and Agriculture in Windsor, CT on April 4, 2006. Comments and impacts are provided in the **Attachments section**.
4. At least 15 extension educators (agents, faculty and staff) will participate in the Future of Food and Farms Summit in December 2005, in support of the “Sustainable Local Food Systems” key topic area.

The 7th annual Future of our Food and Farms Summit took place in Harrisburg, Pennsylvania on December 14, 2005. The focus of this year's Summit was bringing more locally grown food into schools. A number of extension educators attended the summit and reported a favorable experience. A report of the summit activities and results can be viewed at www.thefoodtrust.org/pdf/notes%20on%20Farm%20to%20School%20Summit.pdf

5. At least 15 extension educators (agents, faculty and staff) will participate in the farmer producer seminar series hosted by the Department of Crop and Soil Sciences during fall semester, 2005.
- This was not conducted in 2005, but it is anticipated that it will occur in 2006 (every other year).
6. At least 15 extension educators (agents, faculty and staff) will participate in the annual PASA conference in February 2006.

At the 2006 PASA conference, about 1500 people attended more than 65 workshops. Twelve county extension educators received travel support from PDP funds. Sustainable agriculture educational materials from both Penn State and USDA SARE were displayed over the two-day period. Ms. Kristen Wilmer from NE SARE helped staff the display. Videos ran throughout the two days showing USDA SARE videos “Vegetable Farmers and Their Weed Control Machines”, “SARE: Innovations in Agriculture”, and “Farmers and Their Cover Cropping Techniques”. The cover cropping video was particularly popular with numerous individuals requesting purchasing information. A number of individuals signed up for the PASUSAG ListServ during the conference. PDP funds were used to support this activity. Comments from educators are provided in the **Attachments Section**.

7. At least six farm labor management issues will be addressed in workshops aimed at extension educators, USDA personnel, agricultural professionals, and producers (Farm Labor Issue focus).

- This has not yet occurred but will take place in the next few months.

Attachments (PA):

A. Evaluation Instrument(s).

1. Travel reimbursement document – educators that receive travel reimbursement for NE SARE PDP are asked to fill out and return the following questionnaire:

Pennsylvania SARE Program
Professional Development Travel Scholarship Guidelines

Successful scholarship recipients should describe the changes or outcomes that will occur as a result of the investment in training. Please try to address as many of the following questions in an email to Bill Curran (wcurran@psu.edu) once you return from your sponsored activity.

1. Specifically, what did you learn by attending this training?
2. With whom will you share the learned information (target audience)?
3. What changes in awareness, knowledge, or attitudes will the target audience experience?
4. What changes in skills, behavior, decision making, or other practices do you hope the target audience will implement?
5. How will you measure that change?
6. Do you have a specific goal in mind such as meetings, demonstrations, work sessions with specific producers or other programming that you plan to facilitate in this subject area?
7. Are there plans to incorporate this topic or subject area into existing programming or projects?

Example learning outcomes for sustainable agriculture

Short-term

- Increased knowledge of sustainable agriculture practices, technologies, and resource materials
- Increased awareness, knowledge, and skills in educational methods relevant to sustainable agriculture.
- Increased acceptance of sustainable agriculture practices and principles.
- Increased awareness of local farmer knowledge in sustainable agriculture.

Medium-term

- Increased programming in sustainable agriculture.
- Increased use of SAN/SARE results and products(including farmer-grower and partnership grants)
- Increased referral of farmers to local and/or SARE resources.
- Develop and participate in on-farm research.
- Greater participation on SARE activities.
- Promote SAN/SARE resources.

2. Provided below are the collated responses to questions posed at 3 public sustainable agriculture listening sessions (Williamsport June 23, 2004; Morgantown, March 13, 2005; Somerset, June 29, 2005.)

A. What is your vision for the food and agriculture system in PA?

- Increased number of sustainable farmers, including those that can survive on farm income only.
- Increased consumer education about healthy food from healthy land and ag practices for healthy populace, value of open space and ag lands.
- Much greater emphasis on locally produced and consumed products from sustainable operators.
- Fewer industrial agriculture-managed/owned ag operations.
- Increased viability - \$ for small producers, increased marketing for small producers.
- Alternative farming operations to keep people on land.
- Building strong communities!
- Ag that does not pollute and poison.
- More small producer processing facilities.
- Labeling of true food content and origin.
- Distribution centers for small producers.
- Include forestry in ag definition.
- Increased opportunities for larger PA producers to operate on global scale.
- Locally grown food that can be bought at the farm level.
- A willingness on the part of farmers and the ag industry to be open to change.
- A good market network to sell locally grown food.
- Support for family farms: farms supported by the community as a local business.
- Small, diversified, ecologically responsible farms.
- A diversified system with greater direct marketing opportunities.
- Better (more cost-effective) business practices.
- Better environmental practices.
- Consumers who are educated about food labels such as “all-natural,” “organic,” and “hormone-free.”
- Regional farms for regional foods.
- Healthy foods available locally.
- Better public relations for Pennsylvania’s agricultural products-- publicity that stresses the benefits of locally grown foods to decision makers as well as the urban population.
- An extension program that 1) trains extension agents as more than agronomists (they also need to be trained in direct marketing), and 2) places more extension agents in the field for better (more personal) connections with farmers.
- More realistic organic standards.
- Greater opportunities for farmers to create value-added products.

B. What are the major opportunities for successful agriculture in PA?

- Proximity to population centers (markets).
- Value-added processing opportunities.
- Diversification of markets – examples, direct produce, commodity, agro tourism.
- Niche markets - Grass fed livestock, organics, micro- vegetables, flowers, etc.
- Water availability, good climate and soils.
- Infrastructure for transport – local industries, etc.
- Connection of family farms (incl. Amish, Mennonite), reason for next generation to continue farming
- Support of leadership at universities.
- Political recognition – politicians and administrators recognize, understand, and appreciate the agricultural industry in PA.
- A population base economically able to buy locally-produced foods and other products.

- Many educational opportunities for youth/farmers (incl. forestry industry).
- High level of technology utilization.
- Many organizations that support ag with information.
- Motivated and entrepreneurial farmers.
- New advertisement opportunities through marketing campaigns.
- Farms (farmettes) – baby boomers entering farming.
- Number of females in farming increasing (6000 primary operators in PA), 26%+ of all operators.
- Local branding of farm products.
- Opportunities to build communities around local farming: CSAs, producer-only grower’s markets, auctions. Also, networking among farmers across production type.
- Lifestyle and education favor ag. People are concerned about health issues.
- Strong ag infrastructure: markets, equipment, and processors.
- Partnership opportunities: Not all farmers are “people-people” so networking can help them. Good opportunities for direct and local marketing due to large population centers.
- General population wants farms to exist. Pennsylvanians anxious to preserve the rural quality of life.
- Educated consumers.
- More diversified operations.
- Research dollars available to explore new technologies.
- Money available for farmland preservation.
- New opportunities like agritourism being promoted in PA.
- Current emphasis on healthy, local food from Pennsylvania versus imports laden with more pesticides, fungicides, etc. (there’s a need for greater research to show the nutritional differences between local and imported food).
- Good networking opportunities for farmers to learn about grazing and direct marketing through organizations like Project Grass.
- Greater interest in local healthy food spurred by the aging baby boomers.
- Rising fuel costs favor the development of regional food markets.
- Farmers are close to consumers. There is easy access to markets.
- Good climate and soils.
- Diversity of farm products provides good opportunities for small operations.

C. There are several organizations that are involved with sustainable agriculture in PA. What should Penn State, as the land grant university (teaching, research, extension) be doing to address sustainable ag needs and effectively interact with these other organizations?

- Need equal emphasis on holistic approach i.e. ecology, interrelatedness “Big Picture” research.
- Develop a major/full curriculum in Sustainable Ag.
- Identify appropriate groups i.e. forestry, etc., to engage in dialogue.
- Need to upgrade proficiency of all extension agents with respect to Sustainable Ag.
- Make multifunctional assistance available: research, teaching, extension on connection between production practices, soil quality, crop nutrients and food nutrients, animal and human health.
- Provide research assistance for farmers.
- Encourage more outreach to student body, public, related to Sustainable Ag.
- Co-ordinate research in Sustainable Ag. with other land grants, PA universities and colleges.
- Need work study opportunities – on farm internships for students and faculty.
- Emphasize food/nutrition/health connection and impact on longevity and on economy.
- Publicize courses with other Sustainable Ag. Groups
- Follow PASA’s lead.
- Bridge the gap between conventional and organic/sustainable agriculture.
- Coordinate information from the various organizations.
- Share research interpretation (as well as data).
- Learn the objectives of other organizations to facilitate interfacing.

- Recognize the needs, meet the needs, and identify redundancies.
- Take the lead—be the contact point for information sharing.
- Address specific issues of production and promotion.
- Facilitate good science in sustainable ag education.
- Be an information clearinghouse.
- Provide a fuller analysis of a diversity of practices for better decision-making by producers and consumers.
- Be involved in a network of producers and buyers as PASA does.
- Interact with medical researchers to publicize the benefits of healthy food.
- Provide better ag research (out-of-the-box thinking) for projects that help Pennsylvania growers to extend their season. Develop those technologies that enhance the ability of growers to deal with Northeast winters.
- Involve organizations like PASA in developing curriculum.
- Work with other organizations to create local marketing opportunities. Because Penn State has the state’s “stamp of approval,” it would be better able to initiate change.
- Work with other organizations to form buyers groups and co-ops for farmers to get the best price on inputs.
- Involve marketing firms to help farmers sell products.
- Offer student internships so that students can work with farmers in both farming and marketing.
- Increase consumers’ faith and trust in ag research about food issues like mad cow, scrapie, etc.
- Allocate more Penn State funds for small farms rather than large operations.

D. What are the pitfalls, undesirable outcomes and relationship-threatening occurrences that should be avoided in building a sustainable ag program at PSU?

- Funding Issues – sustainable ag needs to be funded
- Alienating diverse sectors of Ag.
- Failing to make it clear that Sustainable Ag is not just Organic.
- Failing to stay in direct contact with producers.
- Dragging feet! Make it happen now!
- Failing to promote success.
- Not preparing skilled presentation of facts vs. ideology.
- Specialization: Be holistic – social, cultural, ecological, economical.
- Overlooking “other” crops, i.e. forestry.
- Failing to share leadership – nonbiased and open.
- Failing to energize, strengthen education infrastructure – Extension/Farmers.
- Placing too little emphasis on effects of ag practices on food quality and human and animal health and nutrition.
- No pitfalls/no undesirable outcomes.
- Bureaucracy – don’t get bogged down by it.
- Failing to find a balance between grassroots efforts vs. corporate interests.
- Too little flexibility.
- Failing to develop sustainable ag and food systems interest in students, youth and teachers (high school, university level).
- Creating a “one size fits all” approach.
- Emphasis of local production for local communities.
- Focusing on good food for rich people, not good food for all.
- Failing to be inclusive.
- Alienating groups or people.
- Giving conflicting messages or advice.
- Failing to make sure that the voices of small interests are heard.
- Competing with NGOs for funding.
- Ignoring the interests of regions throughout the state in favor of those in Centre County.
- Excluding farmers from research and using only PSU plots.
- Allowing corporate--or state--control over research; conflicts of interest.

- Holding the narrow view of an academic system rather than a holistic view: i.e., too much “strategic plan” and not enough action.
- Allowing a polarization of organic vs. conventional farming.
- Failing to inform the public about developing programs.
- Stereotyping farms and farmers.
- Failing to involve young people in sustainable ag through 4-H.
- Duplicating the services of NGOs.
- Favoring large producers over small producers.
- Focusing on production rather than marketing.
- Allowing corporate--or state--control over research; conflicts of interest.
- Failing to make sure that small farmers have grant money available; make requirements for small farmers to participate more lenient.

3. Six Penn State educators attended the WAgN conference in Vermont in December, 2005. (partial travel reimbursement was provided for four individuals with PDP funds). Comments are provided below. (Attended by Kiernan, Barbercheck, Brasier, Moist, Sachs, Trauger, and Stone). See following website for more information about PA WAgN. (<http://wagn.cas.psu.edu/>)

Highlights of PA WAgN conference survey (N=24)

- 75% of conference attendees went to learn about sustainability in agriculture and 75% attended to get to know other women in PA-WAgN.
 - 96% changed their attitude either moderately or considerably toward participating and building networks
 - 87% changed their attitude either moderately or considerably about taking leadership in the community.
 - 88% found the conference moderately effective in providing new ideas about sustainable farming practices. 50% found the conference moderately or very effective in providing new ideas about business management practices.
 - 92% found the conference provided new ideas to modify operations or new ideas to modify educational events.
 - 95% indicated that the conference helped them decide to make modifications in what they do.
4. One Penn State educator received travel reimbursement to attend the SARE Conference on Climate Change and Agriculture in Windsor, CT on April 4, 2006. He then went on and conducted a Envirothon based on the information he learned at the conference. Comments are provided in the Attachments section by Jim Clark, Extension Educator, Penn State Cooperative Extension of McKean County

A. *What did you learn by attending this training?* Prior to this conference, climate change and global warming were not ideas that I had a lot of knowledge about. It was a very interesting conference which gave me a foundation for understanding the science in this area. I learned that there is a lot of scientific data that supports climate change and the huge need to educate consumers and the agricultural industry about the impacts of these changes. I learned of the website and PowerPoint resources available to help extension educators share this message at www.climateandfarming.org. I also went to Connecticut,

to learn about the Consortium for Atlantic Regional Assessment which is located at Penn State - www.cara.psu.edu.

- B. *With whom will you share the learned information (target audience)?* I will share this information with over 200 Pennsylvania High School Students in Cameron, McKean and Potter County who will be participating in this year's PA Envirothon. I will also share this resource of information with my colleagues in Penn State Cooperative Extension via unit staff meetings, regional staff meetings, the water POW meetings as the water POW Co Chair, and the extension water quality list serve. Finally, I will also share this information with Pennsylvania Citizens in the form of a news release for the popular agricultural media.
- C. *What changes in awareness, knowledge, or attitudes will the target audience experience?* The target audience will see that climate change is a real thing with mounting scientific data that supports these changes. This is a hard sell because so many people see this as an environmental activist issue, but the developed educational resources will help with this effort.
- The need to reduce fossil fuel use. Currently, an economic issue, but awareness could make it an environmental issue for consumers as well.
 - The importance of forests and trees in carbon sequestration.
 - The need for plant research in developing plants that thrive in higher CO₂ environments. The fact that weeds and invasive plants are able to adapt to higher CO₂ and temperature faster.
 - The fact that rain events are becoming more intense. Yet, thousands of environmental dollars in Pennsylvania have been spent on natural stream channel designs that wash away with rising waters.
 - The impact on insects and plant pathogens and how we control these will have to change.
 - Agricultural Producers need to adapt their animal and plant management skills to a warmer climate in PA.
- D. *What changes in skills, behavior, decision making, or other practices do you hope the target audience will implement?* I think the first step is to bring awareness of this issue to the general public. I hope the target audience will see that the dependency on fossil fuels is so much more than just an economic issue. People need to learn about and start using alternate fuel sources. The agricultural community needs to think about how they manage differently in a warmer climate, which will affect animal performance and what plants they can grow. The Watershed Associations need to think about managing for larger rain events and more drought conditions.
- E. *How will you measure that change?* The talk I give for the students in the PA Envirothon will be post tested and that data collected. Once this talk is together it will be shared with consumer groups in my unit such as senior centers and rotaries and evaluation data collected as well. Central Region Extension Agricultural Educators are already looking at Alternative Energy and Agriculture as an emerging issue and this will help deliver and define that issue in a much broader environmental sense. If, I see PA Extension Educators using the resources from this project, that will be a form of impact measurement.

- F. *Do you have a specific goal in mind such as meetings, demonstrations, work sessions with specific producers or other programming that you plan to facilitate in this subject area?* I will have to think about this for next years POW.

For this year:

- My specific reason for attending the workshop was that the current event this year for the PA Envirothon is “Managing Watersheds in a Changing Climate”. I will present a session on climate change to over 200 students at the Envirothon Study Day sponsored by the Potter County Conservation District on April 27, 2006. This reaches over 200 students in 4 counties in North Central PA (*see survey below*).
- I do a bi-monthly news release on a water related subject that is distributed across the Central Region of Penn State Cooperative Extension and my local media in North Central PA and I will share some information on this topic in one of those releases this year.
- On April 20, 2006, I have a National Stream Ecology Expert from the University of Michigan doing a stream tour and workshop in Potter County and the information on stream flow changes, I learned at this conference, can be shared at this tour with the watershed association members. I can also share the water related information with the watershed association members I work with.

Resulting program - 2006 Envirothon: Managing Watersheds in a Changing Climate Survey by Jim Clark, Extension Educator, McKean County, PA
(Results from 82 Respondents out of 100 attendees)

1. This program helped me understand the climate change issue.
76 – TRUE 4 – FALSE 1 – N/A 1 – Not really, but some
2. List one action you will take to improve the environment because you attended this session:
5 – No Answer
2 - Plant more plants
Save gas and not ride in car when not necessary
Burn less fossil fuels and only drive when necessary
6 - Burn fewer fossil fuels
I will be more cautious of burning fuels.
I will be more cautious of burning stuff.
Try not to ...?... fossil fuel
Don't burn as much fossil fuels and plant trees.
Use less fossil fuel
8 - Plant more trees
Tree management
Plant more trees and take care of the environment.
Plant more flowers and/or trees
Plant more plants
Keep potted plants in my home, burn fewer materials.
Help others understand global warming and don't burn fossil fuel.
By conserving energy

Try to use less energy
Help reserve energy by turning off lights, etc.
To turn off my lights
Nothing
Stop littering and less wood burning, regulate fertilizer use.
2 - Not litter
To not burn as much coal because it lets off more co2 into the atmosphere then what there really is.
Use more renewable resources to “recycle” the co2
I will not start unnecessary fires.
Find ways to burn less fuel
3 - Don’t burn things that give off high pollutants
Prevent forest fires with smoke
I will burn less wood for campfires
2 - Burn more wood
Be careful what I burn in a fire
Cautious burning, car emissions
Now that I understand that it is environmentally better to burn plants than fossil fuel, I plan to switch to burning wood.
Feed my cattle Bean-O
2 - Stop burping
Conserve fossil fuels
Plant trees and reduce the amount of energy I use.
Ride my bike more/don’t drive as much.
2 - Buy a hybrid vehicle
Walk more, drive less.
Walk or ride my bike
I will rationally resort to riding a horse to cut down the increase of toxic bi-products
Use less gas
Drive less
Drive around less and go plant trees
Try to travel less by motorized vehicles to help reduce greenhouse gases. (needed more time)
I will try to prevent greenhouse gases.
Try not to use so much greenhouse gases
Help the future generations understand and possibly try to stop the problem.
Global warming
Stop global warming
How the world is getting warmer
Try to lower the amount of carbon dioxide in the air.
Breathe less
Response: If we let the plants grow and produce more oxygen, then maybe the carbon dioxide wouldn’t be so strong.
Biomass fuels needed. (needed more time)

3. Please check the appropriate response?
47 – Male 35 – Female

5. 2006 PASA conference comments from educators.

- Selected Extension Educator comments about the 2006 PASA conference:

#1 - As a result of seminar attendance, short and intermediate range impacts include sharing information in organizational meetings with farmers' market vendors as well as community activists and ECD groups who support local farmers' markets and sustainable agriculture. I will also use samples of marketing materials (postcards & press releases distributed as part of the seminar) and market promotion strategies as part of a Farmers' Market marketing session to be conducted for the Somerset County Farmers' Market. Samples of marketing materials that were distributed have already been used to serve as examples while assisting the SCFM in applying for marketing and capital grants from the local tourism association. Changes in marketing technique knowledge and skills will be measured by success in obtaining grants and by surveys of new knowledge obtained after the marketing session, as well as vendor adoption of signage, product display, and feed back obtained by surveys at the market.

For long term impact, I intend to develop a "Farmers' Market Fundamentals" resource on the Indiana County web-site for use by farmers' market organizers and extension educators. A link will be provided to NESARE on the web-site. Also, I intend to use the information obtained in the seminars to provide reference material to beginning farmers and urban/suburban farmers. My work in Community-Based Agriculture puts me in touch with community and church based gardens interested in providing food to food banks and community kitchens using sustainable techniques. The seminars provided me with awareness and knowledge of an additional sustainable farming technique applicable to farmers with small plots and acreages.

#2 - I am using parts of the presentation "Basics of Sampling, Testing and Interpreting Results of Soil Tests in my "Living on a Few Acres" class. This is an introductory course for small scale and new and beginning farmers. That presentation helped these novice farmers understand soil testing and it's importance.

As a result of a conversation with the PSU on-farm research coordinator at dinner, I will be working in the 2006 growing season on a project looking at soybean populations focused at optimizing plant population. While I found the Humanure presentation entertaining, I don't believe I'll be using that part of the program in my extension efforts.

#3 - Since a major part of my responsibilities are in livestock extension work I participated in several workshops related to livestock production and direct marketing. Through these workshops I am able to assess new opportunities for people that I work with who are involved in small-scale livestock production. There is considerable opportunity for small scale livestock production in Pennsylvania. Producers, both new and experienced, need to be made aware of production and marketing practices that can help them succeed. In my typical interaction with livestock producers I can then make them aware of things I learned at the PASA conference that they may find useful. Furthermore, I plan and implement pasture-based livestock production and

marketing workshops in the region. Participating in the PASA conference helps me stay informed on what topics people are interested in.

I also find the networking aspects of the PASA conference to be very productive and useful. I can interact with people from my own region, as well as people from all over Pennsylvania and surrounding states.

#4 - PASA continues to use anecdotal information as equivalent to research based information and continues to denigrate agricultural production techniques that differ from those that don't meet their philosophy. However, I did pick up some good information relative to grazing research conducted at Wisconsin and learned some additional practices for grass fed beef. I also became more familiar with the principles of organic agriculture. I intend to use this information to help increase dairy grazing and grass fed beef production.

B. Educational/Informational Materials Produced (see Sustainable Publications/ Educational Materials and Products)

C. Slides and Photos - Will send something electronically

D. Web Sites

<http://susag.cas.psu.edu/>

<http://sawg.cas.psu.edu/Default.html>

<http://wagn.cas.psu.edu/>

<http://www.weeds.psu.edu/>

<http://agguide.agronomy.psu.edu/>

<http://www.ento.psu.edu/extension/sustainableAg/default.html>

<http://cmeg.psu.edu/>

<http://ssfruit.cas.psu.edu/>