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BEGINNING SUSTAINABILITY FOR NEW AND BEGINNING WOMEN FARMERS THROUGH PEER LEARNING, MENTORING, AND NETWORKING

NON-TECHNICAL SUMMARY: New and beginning farmers face challenges related to lack of farm background, experience, and training/skill development opportunities that match their needs; they further lack access to land, capital, and credit needed for successful farming. Our research and outreach experiences with women farmers indicate that they perceive similar technical and social barriers to success in their farm businesses. Further, women report problems related to isolation from other farmers, isolation from needed information and educational networks, and discrimination in traditional agricultural circles. The combination of these concerns creates significant barriers to success for new and beginning women farmers. Despite these barriers, women constitute the fastest growing demographic in farming. The number of female principal operators in the U.S. increased almost 30 percent between 2002 and 2007. Because of the barriers encountered by women farmers, they demonstrate special interest in attending educational events led by women. In our research, women report that they appreciate learning basic farming skills, especially typically masculine skills, from other women. Women farmers seek educational activities that involve exchanges of ideas with each other; many express displeasure with presentations delivered by experts that inhibit interaction and communication. Networks of women farmers provide on-going opportunities to build trust, share information, and improve farm success. We expect that 300 new and beginning farmers will attend our educational events and workshops each year. We expect that at least 85% of those who attend educational events will increase their knowledge, skills and attitudes and 50% will adopt changes in their business, production, or environmental stewardship. We expect 25% of farmers attending educational events to use the new online resource. In addition, we expect 20 farmers who do not attend on-farm educational events to use the nine online modules in each of three tracks across the three years. We anticipate that 85% of the 540 will increase their knowledge, skills and attitudes and 50% will adopt changes in their business, production, or environmental stewardship practices. We will increase the capacity of regional representatives to develop mentoring networks. At least 100 new and beginning farmers will participate in either a regional or county potluck by the end of the project. At least 75% of new and beginning farmers

who attend either a county or regional potluck will report increased relationships that provided key business, technical, and social support. We will sustain the project beyond the funding by obtaining both internal and external sources of support. The PA-WAgN steering committee, regional representatives, and new county representatives will commit to the network and will continue to recruit new and beginning farmers to events and activities.

OBJECTIVES: The long-term goal of the project is to improve the sustainability of agriculture and agriculture-related businesses through the development of innovative educational programs and networking opportunities for new and beginning farmers. Our educational programs target women farmers, but will be open to all. To accomplish our long-term goal, we focus on meeting the expressed educational needs of new and beginning women farmers and supporting the development of networks through which new and beginning women farmers can gain technical information, business collaboration, and social support. We support our long-term goal by following four specific objectives: 1. Develop and deliver on-farm, hands-on, and participatory educational events for new and beginning farmers focused in three areas: business planning and marketing; sustainable production practices and value-added processing; and stewardship of air, land and water resources. 2. Develop and deliver an interactive on-line curriculum in the three focus areas, illustrated and supported by examples from the project's educational events, and create "virtual learning communities" related to the event topics. 3. Develop the mentoring capacity of regional leaders to strengthen networks between experienced and new and beginning farmers, and facilitate the development of local mentoring relationships. 4. Enhance partnerships with non-governmental and governmental organizations to deliver educational programs and create information access for new and beginning farmers into the future.

APPROACH: We use a nested network model to operate simultaneously at the state, regional, and local levels to develop educational events and materials, networks, mentoring capacity, and partnerships. Our statewide efforts include one annual event with the Rodale Institute. We will co-sponsor the new and beginning farmers track at the annual conference of the Pennsylvania Association for Sustainable Agriculture. Steering committee members will meet four times per year to plan educational events for new and beginning farmers. PA-WAgN staff will work with regional representatives to identify specific topics within the tracks that will be relevant to their regions, and with experienced farmers and agricultural professionals to conduct the events. At the regional level, we will conduct nine educational events within the three tracks, three in each of three regions of Pennsylvania. At least one event per year will be co-sponsored by the appropriate partner. New and beginning farmers anywhere will have free and open access to educational events through our interactive on-line curriculum. Farmers who attended the educational event can experience collaborative learning by visiting the on-line information to review the event and join in virtual discussions with other attendees. Farmers who were unable to attend can access the information shared at the event as well as interact in the virtual learning community. In each of the three tracks we will build the curricula over the course of the project; multiple modules will be built in each track, drawing on the specific topics of the on-farm events. Each module will use the information prepared for the educational event as well as resources shared during and after the event, drawing on the knowledge base of participants as well as collaborative discussions between experienced and new farmers. In this way, modules emphasize learner-generated content that enhances on-farm instruction. We have built a statewide team of leaders who are women farmers through regular steering committee meetings, leadership

training, and strategic planning and visioning workshops. One steering committee meeting in each year of the project will focus on building mentoring skills. Regional representatives in all three regions will hold one winter potluck learning circle in each year of the project to build regional networks. We will identify representatives in at least one-third (22) of counties in Pennsylvania. These individuals will commit to hosting at least one county-wide potluck learning circle. To build long-standing partnerships and help sustain activities beyond the proposed project, we will appoint representatives of partner agencies and organizations to serve on the PA-WAgN steering committee. Several state and federal agencies are being asked to make concerted efforts to work with new and beginning farmers, women farmers, minority farmers, and other disadvantaged groups.

IMPACT: 2009/09 TO 2012/08

515 people attended field days during this period, 152 attended the Women in Sustainable Agriculture Conference. Written evaluations were conducted at each of the field days. We asked questions about improved knowledge, confidence, attitudes, and actions. In terms of improved knowledge, 44% improved their knowledge on three topics, 44% improved their knowledge on two topics, and 7.4% improved their knowledge on 1 topic. For confidence, 48.1% improved their confidence in at least three topics, 29.6% in two topics and 14.8% in one topic. For attitudes, 74.1% of respondents improved their attitudes. Of all participants, 66.7% plan to implement an idea in their operations based on their participation in the events. In terms of networking, 85.7 percent of people met someone with whom they will stay in contact with. Of these contacts, 20.0 percent expect to benefit from business leads, 35.0 percent expect to exchange technical information, and 80.0 percent expect to share ideas and interact. Analytical results for the conference are still in progress. Of the results analyzed so far, 42.1% of the respondents were 25-34 years of age. The results so far show that 11.1% were somewhat inspired, 44.4% were moderately inspired and 44.4% were very inspired to change their farm operation after attending this event. 100% responded that they met someone they will stay in contact with over the next year. 50% of those were for business leads and 70% responded they would be in contact for technical assistance. There have been 703 views of YouTube videos.

PUBLICATIONS (not previously reported): 2009/09 TO 2012/08

Kiernan, N. E., K. Brasier, M. Barbercheck, C. Sachs, and A. Terman. 2012. Women Farmers: Pulling Up Their Own Educational Boot Straps with Extension. 50(5)
<http://www.joe.org/joe/2012october/rb5.php>.

PROGRESS: 2011/09/01 TO 2012/08/31

OUTPUTS: We conducted eleven workshops for new and beginning farmers. Topics included: Highbush Blueberries, Tractor Operation, Transition to Organic Vegetable Production, and Building Your Customer Base. Regional events: Two regional events occurred during this period. A potluck at Yee Haw Farm attracted 25 attendees and a tour of an organic dairy for 30 attendees. In November, 2011 we held a two-day Women in Sustainable Agriculture Symposium at The Penn Stater Conference Center. The first day of the event participants chose from three farm tours or two day-long intensive learning sessions. The tours were a Value-Added Tour of Amish Country, Community Supported Agriculture, and Collaborative Marketing Tour of Morrison's Cove. The two all-day intensive workshops were Tractor Operation & Maintenance taught by Penn State farm operations employees and Adventures in Marketing taught by Mary

Peabody of Vermont Extension. The Tractor intensive workshop was one of three tractor events held during this year. Topics for the conference break-out sessions included: Trends in Urban Farming; Young Dairy Women in Agriculture; Farming for Life: Using Body Mechanics & other Tools to do What You Love Longer; The Value of Adding Value; Work It, Own it, Work It: Passionate Marketing; Fifty, Fat & farming: Finding Your Niche When Your Don't Fit the Mold; Speaking With power, passion & Purpose: Moving People To Action; Food Sovereignty; Permaculture: create, Empower & Design; Resources for the New & Beginning Farmer; Women Managing the Farm; Crop Planning for Diverse Plantings; Web Marketing for Farms; It's All About the Cheese; Organic Certification; Annie's Project Mini-Session; Funding Opportunities for Farmers; Agriculture IS the Classroom; FRIDGE: An Intergenerational Approach for Engaging the Whole Family in Healthy Eating; Nourishing Conversations for Mind, Body & Spirit; The Journey of Sustainable Food at Fletcher Allen; Exploring CSA Options; Developing & Managing an Educational & Production-Oriented Farm for Institutions; Adventures in Livestock Production; Soil Health on Your Farm: Concepts, Assessment, and Management; Cooperative Marketing Multiplies Sustainability; Enhance Your Farming Story with Food Alliance Certification; and Balancing Work & Life. During the conference, graduate students videotaped a number of women farmers under the title of Tell Your Story. Six of these have been edited and are on PA-WAgN's YouTube channel.

<http://www.youtube.com/user/PennsylvaniaWAgN> Two other videos have been posted covering the Cooperative Marketing and Wild Mushroom Field Day events. On-line instructional information has been posted on our website for all of the above listed Field days under the heading of Notes from the Field <http://agsci.psu.edu/wagn/topics>. The Notes from the Field for each field day provide technical information and resources. These field notes are useful to participants at the field days as well as any other new and beginning farmers in Pennsylvania and beyond. PARTICIPANTS: Carolyn Sachs, Professor of Rural Sociology; Mary Barbercheck, Professor of Entomology; Kathy Brasier, Associate Professor of Rural Sociology; Nancy Ellen Kiernan, Evaluation expert; Ann Stone, Program Associate; Patty Neiner, Program Assitant; Anna Rachel Terman, Graduate Student; Jennifer Hayden, Graduate Student; Kathleen Wood, Graduate Student. Individuals partners and collaborators--Vermont Women's Agricultural Network; Women, Food, and Agriculture Network; Cooperative Extension, PA Association of Sustainable Agriculture, Rodale Institute; PA Certified Organic; Natural Resources Conservation Service; Tuscarora Organic Growers Cooperative; Washington Project; Community Partnerships Resource, Conservation & Development; PA Department of Public Welfare. TARGET AUDIENCES: Women farmers, new and beginning farmers, potential farmers, farmers who want to diversify or add value to their products. PROJECT MODIFICATIONS: Nothing significant to report during this reporting period.

IMPACT: 2011/09/01 TO 2012/08/31

515 people attended field days during this period, 152 attended the Women in Sustainable Agriculture Conference. Written evaluations were conducted at each of the field days. We asked questions about improved knowledge, confidence, attitudes, and actions. In terms of improved knowledge, 44% improved their knowledge on three topics, 44% improved their knowledge on two topics, and 7.4% improved their knowledge on 1 topic. For confidence, 48.1% improved their confidence in at least three topics, 29.6% in two topics and 14.8% in one topic. For attitudes, 74.1% of respondents improved their attitudes. Of all participants, 66.7% plan to implement an idea in their operations based on their participation in the events. In terms of

networking, 85.7 percent of people met someone with whom they will stay in contact with. Of these contacts, 20.0 percent expect to benefit from business leads, 35.0 percent expect to exchange technical information, and 80.0 percent expect to share ideas and interact. Analytical results for the conference are still in progress. Of the results analyzed so far, 42.1% of the respondents were 25-34 years of age. The results so far show that 11.1% were somewhat inspired, 44.4% were moderately inspired and 44.4% were very inspired to change their farm operation after attending this event. 100% responded that they met someone they will stay in contact with over the next year. 50% of those were for business leads and 70% responded they would be in contact for technical assistance. There have been 703 views of YouTube videos.

PUBLICATIONS: 2011/09/01 TO 2012/08/31

Kiernan, N. E., K. Brasier, M. Barbercheck, C. Sachs, and A. Terman. 2012. Women Farmers: Pulling Up Their Own Educational Boot Straps with Extension. 50(5)
<http://www.joe.org/joe/2012october/rb5.php>.

PROGRESS: 2010/09/01 TO 2011/08/31

OUTPUTS: The programs goals of providing on-farm, hands-on, and participatory educational events for new and beginning farmers were met by developing and offering 17 educational workshops and field days between September 2010 and September 2011. The events focused on business planning; value-added production; marketing; community supported agriculture; labor management; equipment operation, maintenance, and safety; marketing with the Web and social media; water quality and natural resource protection; networking and mentoring; organic production; collaborative marketing; and urban farming. We also provided opportunities for beginning farmers to network with each other and with more experienced farmers in their geographical regions, and through our social media sites and online education. **PARTICIPANTS:** Carolyn Sachs, Professor of Rural Sociology Mary Barbercheck, Professor of Entomology Kathy Brasier, Associate Professor of Rural Sociology Nancy Ellen Kiernan, Evaluation expert Linda Moist, Extension Associate Ann Stone, Program Associate Anna Rachel Terman, Graduate Student Jennifer Hayden, Graduate Student John Eschelmann, Graduate Student Individuals partners and collaborators--Vermont Women's Agricultural Network; Women, Food, and Agriculture Network; Cooperative Extension, PA Association of Sustainable Agriculture, Rodale Institute; Natural Resources Conservation Service; Joshua Center; Northwest PA Growers' Cooperative; Penn's Corner Alliance; Clarion Rivers Organics; Cornell Cooperative Extension; Pennsylvania Department of Agriculture's Center for Farm Transitions training professional development: Two professional development opportunities were provided for steering committee members in October 2010 and March 2011. **TARGET AUDIENCES:** women farmers, new and beginning farmers, potential farmers, farmers who want to diversify or add value to their products **PROJECT MODIFICATIONS:** Nothing significant to report during this reporting period.

IMPACT: 2010/09/01 TO 2011/08/31

398 people attended our field days and workshops between September 2010 and September 2011. We received evaluations from people. We asked questions about improved knowledge, confidence, attitudes, actions. In terms of improved knowledge, 43% improved their knowledge on three topics, 29.6% improved their knowledge on 2 topics, and 15.2% improved their knowledge on 1 topic. For confidence, 38.5% improved their confidence in at least three topics,

26.7% in two topics and 23.1% in one topic. For attitudes, 56.1% of respondents improved their attitudes. Of all participants, 76.1% plan to implement changes in their operations based on their participation in the events. In terms of networking, 74.3 percent of people met someone with whom they will stay in contact with. Of these contacts, 37.9 percent expect to benefit from business leads, 52.1 percent expect to exchange technical information, and 82.1 percent expect to share ideas and interact.

PUBLICATIONS: 2010/09/01 TO 2011/08/31

1. Trauger, A., C. Sachs, M. Barbercheck, N. E. Kiernan, K. Brasier, and A. Schwartzberg. 2010. The Object of Extension: Agricultural Education and Authentic Farmers in Pennsylvania. *Sociologia Ruralis* 50(2):85-103.
2. Trauger, A., C. Sachs, M. Barbercheck, K. Brasier, and N. E. Kiernan. 2010. Our Market is Our Community: Women Farmers and Civic Agriculture in Pennsylvania, USA. *Agriculture and Human Values* 27(1):43-55.

PROGRESS: 2009/09/01 TO 2010/08/31

OUTPUTS: Field Days & Workshops: CSA Workshop. 22 participants learned about CSAs. The Right Tool for the Job. 20 participants learned about tools to increase farm productivity and reduce injuries. Tractor Maintenance. 20 participants received a hands-on tutorial on farm tractors and tillers. Collaborative Marketing Workshop at the 2010 Farming for the Future Conference. 50 attendees learned about innovative collaborations. Eastern Region Networking Conference. 40 participants gained insights into establishing a CSA, marketing through media, risk management practices, and livestock care. Southeast Region Networking Potluck. 8 participants shared production practices and balancing workload. Southeast Region Networking Potluck. 35 participants shared their farming experiences and forged networks. Central Region Networking Potluck. 12 participants expressed their goals for the upcoming season. Eastern Region One-Day Networking Conference - Harmonious Farming: Balancing Plant, Animal, and People. Workshops to help establish harmony on the farm through companion planting, livestock diversity, and community involvement (40 participants). Bugs, Wind, & Solar: IPM High Tunnels & Hybrid Renewable Energy System. In collaboration with the PA Association for Sustainable Agriculture, 39 participants learned about integrated pest management and how to incorporate solar and wind energy. Transition to Organic Production. 42 participants saw some of the organic practices described in Rodale's online course, and to learn from farmers who have made the transition and from experts in the field. Dog Days of Summer: Incorporating Working Dogs on Your Farm. 25 participants learned about the types of working dogs. Bug Walk: The Good, The Bad, The Innocuous. Entomologists led 20 participants on a garden walk to identify beneficial insects and harmful insects. Abundant Benefits from Small Plots: Urban Farm Tour. 38 participants toured Greensgrow, Henry Got Crops!, and Urban Girls Produce, an inner-city CSA. Sugar & Sang: Maple & Ginseng Husbandry on Your Forestlands. 31 participants learned about forest stewardship around maple syrup and American ginseng. Grow Your Business: Business Planning & Marketing Workshop (part 1). A small group of participants toured Spring Hills Farm and learned how they successfully applied business and marketing strategies to improve the farm's business ventures. Enhance Direct Marketing with Infrastructure. A group of 10 participants learned the importance of creating welcoming garden-scapes to attract customers to their farm business. CSA Workshop for New & Beginning Farmers at Plowshare Produce. Farmers explained their successes and challenges in establishing a CSA program. They guided

15 participants through a seedling schedule, establishing a successful work share program, and marketing their CSA. Women in Agriculture Day at the 2010 PA Farm Show, Farmer to Farmer: Women Sharing the Field (approximately 100 participants). Monthly Working Group meetings, Bi-weekly Research Subcommittee meetings, March 3-4 Visioning Session & Leadership Training, October 14 Steering Committee Meeting. PARTICIPANTS: Carolyn Sachs, PD, has overseen planning for field days, workshops, mentoring activities, on-line activities, and evaluations. She has also planned steering committee meetings and meetings of the team. She has also supervised staff and graduate students involved in the project. Mary Barbercheck, PI, has participated in planning of field day activities and workshops and attended steering committee meetings. Kathy Brasier, PI, has participated in planning of events and developing the evaluation instrument. Jeff Hyde, PI, has provided advise for activities on business planning and marketing. Linda Moist, Extension Associate, has planned, organized, and led field days and events. She has also designed the on-line curriculum Ann Stone, Staff Associate, has planned activities, attended field days and workshops, organized details of travel and field days, worked and reconciled the budget for the project, developed and maintained communication on facebook and twitter, planned steering committee meetings, and organized team meetings. Anna Rachel Terman, graduate student, has worked on organizing the curriculum, inputing evaluation data, and analyzing evaluation data. TARGET AUDIENCES: Over 300 participants attending workshops, field days, and other events. The majority of the participants were new and beginning women farmers. 83 people completed evaluations. Participants were asked to answer 10 questions about their change in knowledge, attitudes, intentions, and implementations at each event. Forty eight percent of participants reported they changed at least 7 of the impacts, 24 percent reported they changed from 4-6 impacts, 21 perecent reported they changed 1-3 impacts, and 7 percent reported no impacts. Efforts included participatory farmer-led learning environments. Peer-to-peer networking was also developed in different regions of the state. On-line curriculum is being developed. PROJECT MODIFICATIONS: Nothing significant to report during this reporting period.

IMPACT: 2009/09/01 TO 2010/08/31

Evaluations were conducted at our field days, workshops, and other events. For each event, participants were asked to report changes in their knowledge (3 questions), confidence in implementing the skills learned at the event (3 questions), changes in attitudes about ideas at the events (2 questions), and changes in how likely they are to implement recommendations from the event (2 questions) for a total of 10 impact questions. Of the 83 people who completed evaluations, 48.1 percent reported that they increased their knowledge, confidence, attitudes, and implementation in at least 7 of the 10 impacts. Another 23.5 percent reported that increases in 4-6 impacts and 21 percent reported increases in 1-3 impacts. Of the people who responded to the evaluation, 68% met someone at the events who they planned to be in contact with after the event. Of these people, 80% reported they met someone who they would network with (collaborate , share, and react to ideas), 62% reported they met someone who would provide them with technical advise and 31% reported they met someone who would provide them with business leads. We asked farmers who attended the events how inspired they were after the event to modify their farm operation. Forty-five percent reported they were very inspired, 36 percent reported they were moderately inspired, 19 percent reported they were somewhat inspired and no one reported that they were not inspired.

PUBLICATIONS: 2009/09/01 TO 2010/08/31

1. Sachs, C. and M. Alston. 2010. Global Shifts, Sedimentations, and Imaginaries: An Introduction to the Special Issue on Women and Agriculture. *Signs: Journal of Women, Culture and Society* 35(2):277-288. Guest editor of entire issue.
 2. Trauger, A., C. Sachs, M. Barbercheck, K. Brasier, N. E. Kiernan, A. Schwarzburg. 2010. The object of Extension: Agricultural Education and Authentic Farmers in Pennsylvania USA *Sociologia Ruralis*. 50(2):186-203.
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