

Identifying stakeholder needs for establishing vibrant urban specialty crops enterprises

Summary

Increases in home foreclosures, unemployment and inner city poverty are leading to hunger and malnutrition in US urban neighborhoods at an unprecedented scale. Children from poverty stricken areas are at most risk as food banks have emptied, food prices have risen, and access to fresh food is almost nonexistent in many inner city neighborhoods. Urban agriculture can play a huge role in revitalizing affected neighborhoods by generating new employment opportunities in the production and marketing of fresh and processed fruits and vegetables as well as nursery and ornamental plants. The increased availability of local produce will help mitigate hunger and malnutrition, while non-food plants can provide many practical and aesthetic purposes that enhance the quality of life in urban areas. Urban land banks have expanded during the past few years and cities are exploring ways to utilize land vacancies productively. We propose a Research and Extension Planning Project to expand stakeholder involvement in efforts to facilitate and enhance the production, marketing, and utilization of specialty crops (fresh vegetables and fruits) in poverty stricken urban areas. Our long-term goal is to address the needs, characteristics, and potential of vibrant urban specialty crops enterprises and demonstrate their benefits to revitalization of poverty stricken neighborhoods. In this project, we propose to conduct stakeholder surveys and organize a stakeholder conference to indentify critical needs for establishing vibrant urban specialty crops enterprises, and to establish teams of researchers and stakeholders to develop a comprehensive specialty crops interdisciplinary, inter-institutional, and multi-state Coordinated Agricultural Project (CAP) proposal.

PROJECT NARRATIVE

(i) Response to previous review: Not applicable

(ii) Executive summary and table of contents

1. Project title: Identifying stakeholder needs for establishing vibrant urban specialty crops enterprises

2. Project type: Research and Extension Planning Project (REPP)

3. List of legislatively mandated focus areas: This project will address focus areas 3 (Efforts to improve production efficiency, productivity and profitability over the long-term including specialty crops policy and marketing), and 5 (Methods to prevent, detect, monitor, control, and respond to potential food safety hazards in the production and processing of specialty crops including fresh produce) with about 75% of the funds dedicated to area 3 and 25% to area 5.

4. Program staff

Principal Investigator and Project Director:

Dr. Parwinder S. Grewal, Professor and Director, Center for Urban Environment and Economic Development, Ohio State University, OARDC, Wooster, OH 44691, grewal.4@osu.edu

Co-Principal Investigators:

Dr. Marv Batte, Professor and Director, Center for Innovation-Based Enterprise, Department of Agricultural, Community, and Developmental Economics, Ohio State University, Columbus

Dr. John Cardina, Professor, Horticulture and Crop Science, OARDC, Wooster

Dr. Mark Erbaugh, Professor of Rural Sociology and Interim Director, International Programs in Agriculture, Columbus

Dr. Casey Hoy, Professor and Kellogg Chair, Agroecosystems Management, OARDC, Wooster

Dr. Mathew Kleinhenz, Associate Professor, Horticulture and Crop Science, OARDC, Wooster

Dr. Peter Ling, Associate Professor, Food, Agricultural, and Biological Engineering, OARDC, Wooster

Collaborators:

Mr. Abe Bruckman, AICP, Director of Real Estate Development, Ohio City Near West Development Corporation, Cleveland, Ohio

Mrs. Frances Crowe DiDonato, Manager, Department of Public Utilities, Office of Sustainability, Cleveland, Ohio

Mr. Jeff Jurassick, Project Manager, MTD, Inc., Cleveland, Ohio

Dr. Brad Massi, Executive Director, New Agrarian Center, Oberlin, Ohio

Mr. Peter McDermott, Network Weaver, Entrepreneurs for Sustainability, Cleveland, Ohio

Mrs. Bobbi Reichtell, Senior Vice President, Neighborhood Progress Inc., Cleveland, Ohio

Dr. Susan Shockey, Family and Consumer Sciences, OSU Extension, Franklin County, Ohio

Mr. Carl Skalak, Jr. Owner, Blue Pike Farm, Cleveland, Ohio

Ms. Morgan Taggart, Program Specialist in Urban Agriculture, OSU Extension, Cleveland

5. Critical stakeholder need addressed and the long-term goals of the project

Our urban stakeholders have expressed a critical need to address both fresh food availability and employment opportunities through enhanced entrepreneurial activity. This planning project seeks to focus stakeholders' goals and identify specific, achievable objectives leading to the production, processing, distribution, marketing, and utilization of specialty crops in urban areas. This project will use a systems approach and will focus on all three primary systems including, the production system, the processing and distribution system, and the consumer marketing system, identified in the Specialty Crops Research Initiative request for proposals. Our long-term goal is to provide underlying science-based information to assist stakeholders in building capacity to develop and manage vibrant urban specialty crops enterprises and demonstrate their effects on revitalization of poverty stricken neighborhoods.

6. Outreach plan

We propose to fully engage diverse stakeholders in the identification of critical needs of enterprises for producing, processing, distributing, and marketing specialty crops in and around urban areas. While continuing our work with the urban farmers, we will reach additional stakeholders through focus group meetings, social networking, and through a conference dedicated to urban agriculture. All information generated will be synthesized into a comprehensive report which will be made available to all targeted stakeholders and will be placed on the internet for use by all those interested in exploring urban agriculture issues.

7. Potential, economic, social, and environmental benefits

The commercial growers of specialty crops will be the direct economic beneficiaries of this Research and Extension project, while food processors, food distributors, marketers, local restaurants, technology providers, city governments, and consumers will be the indirect beneficiaries. This project has the potential for economic and social revitalization of urban neighborhoods through the creation of jobs, engaging school children and youth in the emerging urban food economy, and improving the health of urban residents especially those in poor neighborhoods by enhancing accessibility to healthy food. This project will also contribute to the reduction of ecological footprint associated with the long-distance transport of fresh food.

8. Stakeholder engagement

We propose to engage stakeholders in four ways: (i) focus group meetings; (ii) electronic surveys and discussion forums through social networking sites (iii) mail in surveys, and (iv) a dedicated conference. Stakeholders will include city planners, policy makers, non-profit neighborhood development organizations, farmers, food processors, food distributors, local food serving restaurants, representatives from local markets, technology providers, local city schools, and community leaders. We have already had several focus group meetings with urban farmers, city planning officials, and representatives from local market outfits. Over the course of the project, stakeholder input will be solicited through an Advisory Panel comprised of representative stakeholders from each participating sector including city planners, community organizers, policy makers, producers, food processors, distributors, and marketers. The advisory panel will inform the project throughout its life by prioritizing objectives and evaluating the outcomes quarterly.

(iii) Introduction

Urban agriculture can play a huge role in revitalizing poverty stricken urban neighborhoods by generating new employment opportunities in the production and marketing of fresh and processed fruits and vegetables as well as nursery and ornamental plants. The increased availability of local produce will help mitigate hunger and malnutrition, while non-food plants can provide many practical and aesthetic purposes that enhance the quality of life in urban areas. Urban land banks have expanded during the past few years and cities are exploring ways to utilize land vacancies productively.

Ohio ranks 9^h in population density among U.S. states, although agriculture remains its number one industry. Most of Ohio's nearly twelve million inhabitants live in or near seven major, multi-ethnic metropolitan areas. Indeed, sociologists classify Ohio as ex-urban with only a small percentage of the population living more than 65 miles from a city (Sharp and Erwin, personal communication). The close proximity of farming and urban areas results in serious rural-urban interface challenges. But, it also presents economic opportunities for entrepreneurial farmers able to satisfy the growing demand for highly perishable, locally- and, possibly, organically-grown commodities. In fact, vegetable production is reported to be the only major sub-sector of agriculture to benefit from suburbanization (James and James, 1997; Lopez et al., 1988). The number of local-regional outlets for Ohio-grown produce, especially that harvested in the "off-season", is increasing. This trend is consistent with the observation that urbanization tends to aid the development of horticultural enterprises – including those based on direct sale to consumers, production of high value crops, and sustainable-organic approaches (Blaine et al., 1997; James and James, 1997). Not surprisingly, Ohio boasts more than seventy farmer's markets, many urban, operating in nearly eighty-eight counties (Johnson and Bragg, 1998) and a vigorous and expanding direct-marketing community that relies heavily on year-round or nearly year-round product availability. Still, the successful expansion of urban-centered food production is limited in part by a lack of research-based information and diverse researcher-stakeholder teams.

The **long-term goal** of this project is to address critical stakeholder research and Extension needs for establishing and maintaining vibrant urban specialty crops enterprises and demonstrate their effects on revitalization of poverty stricken neighborhoods. The **specific objectives** of the proposed planning project are to:

1. Develop and offer an interdisciplinary graduate course in Urban Agriculture
2. Conduct surveys to determine critical needs of diverse stakeholders engaged in the planning, facilitation, promotion, production, processing, distribution and marketing of specialty crops in urban areas
3. Hold a regional workshop to bring together city planners, policy makers, neighborhood development organizations, farmers, food processors and distributors, local food serving restaurants, representatives from farmers' markets, technology providers, local city schools, and community leaders engaged in urban specialty crops enterprises to develop a comprehensive research and Extension agenda
4. Establish teams of researchers and develop a comprehensive specialty crops interdisciplinary, inter-institutional, and multi-state Coordinated Agricultural Project (CAP) proposal

Over the course of the project, stakeholder input will be solicited through an **Advisory Panel** comprised of representative stakeholders from each participating sector including city planners, community organizers, policy makers, producers, food processors, distributors, and marketers. The advisory panel will inform the project throughout its life by prioritizing objectives and evaluating the outcomes quarterly.

Rationale and Significance

More people now live in cities than rural areas around the world and all projected increase in population is expected to occur in cities (Grimm et al., 2008). In the US, about 80% of the people reside in urban areas, and between 1990 and 2000, urban land in the US increased in area by roughly the combined size of Vermont and New Hampshire. Although cities still occupy only about 2% of the Earth's land surface, they consume 75% of global energy and produce 80% of all greenhouse gas emissions. Cities also heavily depend on other ecosystems for resources. In fact, very few of the needs of US cities for food, energy, water and renewable materials currently are met from within the cities or even the contiguous metropolitan regions. Thus, western cities tend to have an ecological footprint between 200-300% larger than their physical footprint. Long-distance transport of perishable fresh food contributes substantially to this ecological footprint of cities (Chow et al., 2003).

Recent increase in home foreclosures, unemployment and inner city poverty is leading to hunger and malnutrition in US urban neighborhoods at an unprecedented scale. Food banks have been emptied and unemployment rates have soared. Food prices have gone up due to increased fuel costs and demand for land resources for the production of bioenergy crops. Generation of new employment opportunities and access to fresh food in inner city neighborhoods are critical. Children from poverty stricken areas are most vulnerable. Urban agriculture can play a huge role in revitalizing affected neighborhoods by mitigating hunger and malnutrition through the provision of locally produced fresh food and by generating new employment opportunities. Urban land banks have expanded substantially particularly during the past few years and cities are exploring ways to utilize these land vacancies productively. In Cleveland alone, there are approximately 3,300 acres of vacant land within the city limits and an estimated 15,000 vacant buildings (City of Cleveland Planning Commission, Department of Building and Housing, 2009). Therefore, the production and utilization of locally-produced fresh food, particularly vegetables and fruits, will not only meet the expanding demand for locally produced food and improve household food security and nutrition, but will also put to use the vacant land.

The commercial growers of specialty crops in and around urban areas will be the direct beneficiaries of this Research and Extension project while food processors, food distributors, marketers, local restaurants, technology providers, city governments, and consumers will be the indirect beneficiaries. The prosperity of the specialty crops growers will strengthen urban communities in the region and the access to local fresh food will enhance household food security and nutrition. While the production and utilization of specialty crops within the urban areas will curtail ecological footprint associated with global transport of perishable foods, it will also strengthen local businesses including food processors and distributors, marketers, restaurants, and will enhance economic viability of the cities by turning the vacant land into productive uses and by the creating of local jobs. Benefits of this project will go well beyond the region as the resulting practices and policies will be applicable to other regions in the US.

Need for the planning project

Formal planning activities are necessary for this project because of the diversity of the issues and stakeholders involved and due to the specific program requirements for the involvement of multiple institutions and states. The interdisciplinary nature of this project also requires business management and marketing experts interacting with biological, physical, and social scientists in order to overcome disciplinary barriers to intellectual discourse and understanding of disciplinary terms and concepts. The potential benefits of formal planning activities also include a comprehensive needs assessment, a review of successful policies and practices developed by others around the nation and internationally, a review of diverse local policies and regulations affecting urban agriculture, and a compilation of unique and common problems that the farmers may be facing in different urban communities. The production of a comprehensive report emanating from this planning project will serve as an immediate useful document for policy makers, city planners, neighborhood development organizations, foundations, and local, state, and federal funding agencies.

Ongoing activities and preliminary data

(a). Establishment of an urban grower training program

Due to the expanding stakeholder need, the Ohio State University Extension has established an entrepreneurial urban farming training program in Cleveland, Ohio. Over 95 farmers have taken the 6 month long training course already which indicates strong commitment from urban farmers.

(b). Peri-urban Organic Research and Extension Project

The 2005-present Cleveland, Ohio-based City Fresh and OSU Extension Market Gardener training programs, 2004-present Ohio-wide New and Small Farm College and 2007-present High Tunnels 101 workshop series have provided key educational platforms for more than 1300 urban and rural specialty crop growers, particularly for training in the successful application of proven production-marketing tactics. Source information for these programs was derived from multidisciplinary, stakeholder-driven projects such as the Ohio-based "Paths of transition: strategies for peri-urban organic farmers." For the "peri-urban" project, seven researchers representing seven disciplines and numerous industry-based stakeholder advisors combined their talents to document the strengths and limitations of eight organic transition strategies for specialty crop growers operating in and near urban areas. The transition strategies were based on common stakeholder questions and circumstances and represented a spectrum of intensity (inputs) and expected outcomes (crop yield and earning potential), with clean fallowing and high tunnel-based vegetable production serving as extremes of the spectrum. Transition strategy effects on soil, plant, pest, and economic indicators were tracked. Key discoveries made by the project team in completing the "peri-urban" and follow-up, issue-specific projects include: 1) that the number of urban and peri-urban specialty crops farms appears to be rising rapidly, 2) that urban/peri-urban specialty crop farmers seek reliable guidance in the design and implementation of their growing systems, 3) that few integrated, contemporary, research-based documents and tools are available to assist urban/peri-urban specialty crop growers (particularly as they deal

with a widening array of constraints and opportunities), and 4) that productive private-public partnerships and innovative approaches are needed to help foster the emergence of resilient urban agricultural systems. This project would provide valuable opportunities for progress in these and others areas.

(c.) Social networking

A USDA SCRI Regional Partnerships for Innovation grant to PD Casey Hoy, OSU, with coPD's Steve Bosserman, Bosserman & Assoc., Greg Boulos, Pennsylvania Association for Sustainable Agriculture, Stan Ernst, OSU, Mike Hamm, MSU, and Susan Smalley, MSU, focuses on the development of social networking tools that will strengthen networking capacity and honing collaborative skills to prompt market expansion, technology commercialization, and business growth through local food systems that produce and deliver specialty crops in the Midwest. Furthermore, these distributed local food systems are being linked into a robust, interstate, regional network that shares experience and learning, expedites the adoption of new technology and practices, and coordinates the supply of food from one locality to another. Social networking tools are being developed through a series of pilot projects, including networking youth-serving organizations to engage youth in agriculture and food systems in urban and metropolitan areas. In the proposed project, we plan to leverage the development of social networking tools from our current project to begin the dialogue on urban specialty crop production with an existing network of food system participants from across the value chain, production to retail. We will use our social networking tools to facilitate this dialogue before the proposed urban specialty crops conference, leading to more rapid progress once meeting face to face, and to maintain a collaborative framework for working groups after the conference. We envision this online social networking to occur both through the existing project website, localfoodsystems.org, as well as through existing networking sites of project participants (e.g. localfoodscleveland.org, E4S.org, etc.) that can be linked with network portals under development in our current project. Finally, the social networking site can be used to begin the survey process, starting with short online qualitative and quantitative surveys and rating tools to begin building the conceptual framework for the eventual CAPS proposal.

(d.) Stakeholder identification and focus group meetings

In addition to ongoing interactions with urban farmers, we have had several formal stakeholder meetings in Cleveland to estimate potential stakeholder needs for enhancing the specialty crops enterprise. Separate meetings were held with urban farmers, city planners, and neighborhood development of organizations. We found huge energy in enhancing and supporting urban agriculture enterprise in all sectors. Although soils, water, and pest problems were identified by all farmers, marketing, land security, fencing, food preservation, and labor were reported to be important issues. Based on these preliminary focus group meetings of targeted stakeholders, it is evident that we need to expand stakeholder surveys to obtain a full grasp of the research and Extension needs and priorities for promoting, establishing, supporting, and enhancing effective specialty crops enterprises.

(e.) Urban Landscape Ecology Program (ULEP) and Ecological Landscaping conference

ULEP is an interdisciplinary research and outreach program (www.oradc.ohio-state.edu/ulep) which has been developing and promoting sustainable urban landscaping practices. ULEP has

proposed a specialized track in Urban Landscape Ecology in the Environmental Science Graduate Program which is ideal for graduate students for acquiring interdisciplinary skills for engaging in many aspects of multi-functional urban agricultural enterprises. ULEP organized the first international conference on “Ecological landscaping: from scientific principles to public practices and policies” to pull together biological, social, physical, and agricultural researchers, landscapers, city planners, and policy makers to facilitate, promote, and implement sustainable ecological landscaping practices. We will model the proposed workshop on urban agriculture on the ULEP Conference (see conference program at www.oardc.ohio-state.edu/ulep).

(f). Urban soils project

Urban soils tend to be highly disturbed due to the impact of anthropogenic activities. We have initiated studies on the impact of human activities on nutrient cycling, carbon sequestration and soil food web dynamics in urban soils. We find huge spatial variation in carbon pools (Singh, 2007), organic matter, pH, and nutrient pools (Cheng et al., 2008; Park et al., 2009), nematode community indices (Cheng et al., 2008), and diversity and abundance of nitrogen fixing bacteria (Park et al., 2009) in urban areas. In manipulative experiments we have assessed temporal dynamics of the soil nematode food web and nutrient pools in tall fescue lawns initiated on either topsoil or exposed subsoil, with or without compost amendment (Cheng et al., 2009). We found that nematode abundance, genus diversity, food web enrichment, and structure indices were lower in subsoil compared with topsoil plots. Compost amendment increased nematode food web enrichment index but had no effect on structure index. Temporal faunal profile analysis indicated that the soil food webs converged in all treatments overtime resulting in a pattern typical for turfgrass lawns. Soil macronutrients Ca, P, K, total N, total C, microbial biomass, and soil organic matter contents were higher in topsoil than subsoil, and were increased by compost amendment in both substrates. After one year, turfgrass quality (greenness) was higher in topsoil than subsoil plots, in plots with compost amendment than those without. These studies will form the basis for developing effective strategies for improving nutrient cycling and capacity of urban soils for supporting the production of specialty crops.

(g). OARDC Research Internships Program (ORIP)

We have established a new 10-week paid summer research internships program (www.oardc.ohio-state.edu/orip) at the Ohio Agricultural Research and Development Center (OARDC) to engage high school and undergraduate students in on-going research projects. The main goal of this exclusively faculty-driven program is to substantially expand research opportunities to area students and to significantly enhance their interest in science, technology, engineering, and mathematics by inculcating critical thinking skills through rigorous laboratory and field-based research experiences, seminars, group discussions and symposia. In 2008, 35 students were mentored by 26 faculty members. We plan to use this program to recruit high quality students to engage in the proposed specialty crops planning project (e.g. stakeholder surveys) and in the subsequent CAPS project. We believe that engaging high school and undergraduate students in the emerging urban agricultural entrepreneurial sector can lead to capacity building in both the agricultural research and Extension workforce but also to train future farmers.

(h). Agroecosystems Management Program (AMP) curriculum development

AMP has initiated the development of degree programs at both the undergraduate and graduate levels, and has considerable experience in design and offering of interdisciplinary graduate level courses. The Agricultural and Technical Institute of OSU (ATI) has begun the process of developing a 2 yr Associate Degree program in Sustainable Agriculture and Entrepreneurial Farming that would be excellent for beginning specialty crop growers in urban areas. The external advisory committee has been facilitated by AMP and the curriculum is now under development. Likewise, AMP has proposed a specialized track in Agroecosystems Science in the Environmental Studies Graduate Program. This is the ideal track for graduate students interested in research in urban agricultural systems, providing both the technical and disciplinary background needed to develop effective research programs in agricultural systems. AMP has conducted a regular series of graduate level interdisciplinary courses in which students gain experience working in interdisciplinary teams and in collaboration with stakeholder partners. The most recent was a SP08 offering entitled "Planning and Design of a Sustainable Farm".

Approach

We propose four distinct but complementary set of objectives to comprehensively assess urban specialty crops stakeholder research and Extension needs and to develop a strong interdisciplinary, multi-institutional, and multi-state SCRI full proposal.

1. Develop and offer an interdisciplinary graduate course in Urban Agriculture

We propose to develop an interdisciplinary service-learning graduate course in urban agriculture to develop and synthesize plans for urban farms and market development. Students will read case studies from the current literature of urban agriculture projects from around the world. The course will be led by the CoPIs representing biological, physical, and social scientists, as well as faculty with expertise in marketing and business development. The faculty and students will synthesize significant information, and develop specific proposals for urban agricultural enterprises, including site factors, remediation needs, market analysis, soil and water resources, plant materials, system design, business plans, product processing and distribution, and cross-cultural issues associated with sales and marketing. The course will be offered in the coming summer quarter (Summer 09) at the Ohio State University. Students will present group reports to the Stakeholder Advisory Panel and faculty for evaluation. Although, we are not requesting funding for this objective from this program, the outcome of this very first course will help the development of a strong interdisciplinary team of social, biological, and physical scientists (C-PI's) who will then develop a much stronger proposal and will be able to work together effectively to lead the CAPs project.

2. Conduct surveys to determine critical needs of diverse stakeholders engaged in the planning, facilitation, promotion, production, processing, distribution and marketing of specialty crops in urban areas

We plan to conduct multi-faceted surveys of stakeholders to identify critical research and Extension needs for establishing and maintaining viable specialty crops enterprises in urban

areas. We will take three distinct approaches to collect the necessary information: (i) focus group meetings; (ii) electronic surveys through social networking sites and (iii) a targeted survey of the Cleveland Westside Market to obtain more in-depth information on the regional food economy and its challenges.

(i) Focus group meetings:

We will conduct small focus group meetings with selected stakeholders to identify their specific research and Extension needs. We have found such small meetings to be very useful and everyone get to share their specific point of view. For this purpose we will hold separate meetings for each stakeholder group such as farmers, food processors and distributors, marketers, technology providers, city planners and policy makers, neighborhood development organizations and foundations, and city schools. The small group meetings will be led by the Co-PI's and will be held between August and December, 2009. Cities targeted for such meetings will be Cleveland, Toledo, Akron, Youngstown, Pittsburgh and Detroit. For the Cleveland-Akron-Youngstown area, the Northeast Ohio Food Congress in November 2008 provided an excellent starting point in gathering these various interest groups. The Food Congress, however, was broadly focused on food throughout the region rather than the more specific focus for our workshop on urban specialty crop production. After the focus group meetings we will follow up with these groups to continue the dialogue using the social networking tools described above.

(ii) Electronic surveys through social networking sites:

As part of our existing USDA SCRI social networking project, we are in the early phases of developing online brief survey tools that function in concert with social networking software and would allow us to evaluate progress in the development of the network and shift from communication to collaboration. We propose the further development and use of such brief and targeted survey tools, together with online dialogue and discussion as is more typical of current use of social networking sites, to develop ideas and focus areas for the eventual CAPS proposal.

(iii) Cleveland Westside Market:

Surveys will be conducted with two groups of stakeholders of the Cleveland Westside Market: consumers (urban residents) and producers.

Consumer survey: An e-mailed survey of 1,000 randomly selected consumers in Northwest Ohio will be conducted during summer and autumn of 2009. It is essential that a random sample of Cleveland area residents be drawn so that inferences can be made from the sample to the larger population. An e-mail list will be purchased from Market Tools, an affiliate of Zoomerang Company. The sample will be post-stratified to accurately represent the census for the region.

Questionnaire design and administration will follow best survey practices (Dillman, 2006). The survey instrument will include several sections to eliciting information regarding consumers' demand for local food products sold in the Cleveland area, including demand for local foods, willingness to participate in food growing activities on local lands, and willingness to purchase foods in the Westside market. A conjoint experiment will be conducted to allow assessment of various food and market attributes in consumers choice of fresh food products. Willingness to pay measures can be calculated from these experimental results. These results will be instrumental in helping to quantify local residents' demands for locally produced foods and the research and extension activities of the proposed project.

Producer survey: A survey will assess the attitudes and needs of farmers who currently are marketing their goods through the Cleveland Westside Market. The list will be provided by the market, and thus represents the population of current producers marketing there. Researchers will work with Westside market leaders to develop the survey. Questionnaire design and administration followed best survey practices (Dillman, 2006). Questionnaires will be mailed to the farmer producers. The questionnaire will elicit key attitudes of producers toward local food production and direct marketing, as well as identify important restraints on their direct marketing through the Westside and similar markets. Areas of needed research and outreach education will be identified through analysis of the survey data.

3. Hold a regional workshop to bring together city planners, policy makers, neighborhood development organizations, farmers, food processors and distributors, local food serving restaurants, representatives from farmers' markets, technology providers, local city schools, and community leaders engaged in urban specialty crops enterprises to develop a comprehensive research and Extension agenda

We will hold a regional workshop in February 2010 in Cleveland to bring together city planners, policy makers, neighborhood development organizations, farmers, food processors and distributors, local food serving restaurants, representatives from farmers' markets, technology providers, local city schools, and community leaders engaged in (or interested in) urban specialty crops enterprises to develop a comprehensive future research and Extension agenda. Selected key researchers and stakeholders from around the country and from selected foreign countries including Canada, Netherlands, England, and Uganda, who have made significant progress in establishing urban agriculture enterprises, will be invited. Results from the literature review course and stakeholder surveys will be presented at the workshop to provide targeted topics and to initiate focused discussions. Through targeted lead talks, focused discussion sessions, and round tables, research and extension needs for establishing and maintaining vibrant urban specialty crops enterprises will be identified. This will be a 2.5 day meeting with time specifically budgeted for breakout sessions and networking activities. All sessions will be video-recorded and a written report will be produced at the conclusion of the meeting. A tentative list of potential participants along with their affiliations is provided below.

4. Identify collaborators and sources of matching funds, establish teams of researchers, and hold writing sessions to develop a comprehensive specialty crops interdisciplinary, inter-institutional, and multi-state Coordinated Agricultural Project (CAP) proposal

Through objectives 1, 2, and 3, potential collaborators and sources of funding will be identified. These individuals will be invited to participate in the development of the full CAPs proposal. Teams of researchers and stakeholders will be formed to write specific objectives/sections of the CAPs proposal. Two separate, two-day writing sessions will be held to develop the first draft of the CAP proposal which will be improved and refined subsequently through e-mail communication among the Co-PIs.

Time line and schedule of activities

Objective 1: June-August, 2009

Objective 2: September – December 2009

Objective 3: February 2010

Objective 4: February – April 2010

Tentative list of potential conference participants and their affiliations

Internal participants:

1. Nick Basta, Professor, School of Environment and Natural Resources, CFAES
2. Marv Batte, Professor, Agricultural, Environmental, and Developmental Economics, CFAES
3. Thomas Blaine, Associate Professor, Environmental Economics, OSU Extension, CFAES
4. Tim Buckley, Associate Professor, Environmental Health Sciences, College of Public Health (CPH)
5. Michael Camp, Academic Director, Center for Entrepreneurship, Fisher School of Business, College of Business (COB)
6. Luis Canas, Associate Professor, Controlled Environment Entomology, CFAES
7. John Cardina, Professor, Horticulture and Crop Science, CFAES
8. Jim Chatfield, Associate Professor, Plant Pathology, OSU Extension, CFAES
9. John Conglose, Associate Professor, OSU Extension, CFAES
10. Maria Manta Conroy, Assistant Professor, City and Regional Planning, College of Engineering (COE)
11. Sandra Cornett, RN, Ph.D., Director, AHEC Clear Health Communication Program, Office of Outreach & Engagement, College of Medicine (COM)
12. Warren Dick, Professor, School of Environment and Natural Resources, CFAES
13. Mark Erbaugh, Interim Director, International Programs in Agriculture, CFAES
14. Mary Gardiner, Assistant Professor, Entomology, CFAES
15. Parwinder Grewal, Professor of Entomology, CFAES
16. Casey Hoy, Professor and Kellogg Chair, Agroecosystems Management, CFAES
17. Gail Kaye, Associate Professor, College of Education and Human Ecology (COEHE)
18. Harold Keener, Professor, Food, Agricultural, and Biological Engineering, CFAES
19. Rebecca Kim, Associate Professor, College of Social Work (CSW)
20. Mathew Kleinhenz, Associate Professor, Horticulture and Crop Science, CFAES
21. Joseph Kovach, Associate Professor, Entomology, CFAES
22. Roman Lanno, Associate Professor, Evolution, Ecology, and Organismal Biology, College of Biological Sciences (CBS)
23. Jesus J. Lara, Assistant Professor, Landscape Architecture, COE
24. Peter Ling, Associate Professor, Food, Agricultural, and Biological Engineering, CFAES
25. William Lyons, Professor, Geological Sciences, Byrd Polar Research Center, Mathematics and Physical Sciences (MAPS)
26. Hugo Melgar-Quiñonez, Associate Professor, College of Education and Human Ecology (COEHE)
27. Joyce McDowell, Associate Professor, College of Education and Human Ecology (COEHE)
28. Edward McCoy, Associate Professor, School of Environment & Natural Resources, CFAES

29. Brian McSpadden Gardener, Associate Professor, Plant Pathology, CFAES
30. Fred Michel, Associate Professor, Food, Agricultural, and Biological Engineering, CFAES
31. Darla Munroe, Assistant Professor, Geography, College of Social & Behavioral Sciences (CSBS)
32. Chris Olinsky, Montgomery Extension, Family and Consumer Sciences, CFAES
33. Brian Raison, Interim Director, 4H & CD Educator, OSU Extension, CFAES
34. Susan Shockey, Associate Professor, Franklin County Extension, Columbus, CFAES
35. Sharon Seiling, Extension Specialist, Family Resource Management, CFAES
36. Davis Sydnor, Professor, School of Environment and Natural Resources, CFAES
37. Larry Steward, Associate Professor of Horticulture, Agricultural Technical Institute, CFAES
38. Morgan Taggart, Ohio State University Extension, Cleveland, CFAES
39. Robin Taylor, Research Scientist, Entomology, OARDC-CFAES
40. Linda Weavers, Professor, Civil and Environmental Engineering, COE
41. Annecoos Wiersema, Assistant Professor of Law, Moritz College of Law (MCL)

External participants:

1. Robert Angiocchi, Cleveland Metro Parks, Cleveland, Ohio
2. Greg Baryluk, Engineering Systems Performance Manager, Advanced Drainage Systems, Hilliard, Ohio
3. David Beach, Director of Sustainability, Cleveland Museum of Natural History, Cleveland, Ohio
4. Michael Brown, Mayor's Office, City of Columbus, Columbus, Ohio
5. Dr. James Bonta, Research Hydrologist, USDA, Coschocton, Ohio
6. Art Bruckman, Director of Real Estate Development, OCNW Development Corporation, Cleveland, Ohio
7. Erica Buri, Olander Park System, Sylvania, Ohio
8. Dr. Susan Clayton, Professor of Psychology, College of Wooster, Wooster, Ohio
9. Douglas Coleman, Wintergreen Nature Foundation, Virginia
10. Frances Crowe DiDonato, Manager, Department of Public Utilities, Office of Sustainability, Cleveland, Ohio
11. Kirby Date, Program Coordinator, Cleveland State University, Cleveland, Ohio
12. Daryl Decker, Manager, Department of Parks and Recreation, Wooster, Ohio
13. Kyle Dreyfuss-Wells, Director, Chagrin River Watershed Partners, Inc., Willoughby, Ohio
14. Marvin Duren, Marvin's Organic Gardens, Lebanon, Ohio
15. James Duxbury, Earth & Environmental Sciences, Orrville High School, Orrville, Ohio
16. Jerry Egan, Comprehensive Planning Administrator, Department of Planning and Urban Development, Akron, Ohio
17. Steve Faivre, Innovations Manager, John Deere, Moline, Illinois
18. Stuart Faulk, The Scotts Company, Marysville, Ohio
19. Steve Foltz, Director of Horticulture, Cincinnati Zoo & Botanical Gardens, Cincinnati, Ohio
20. Ron Hall, Landscape Management Magazine, Cleveland, Ohio
21. Clemens Halene, Vice President of Engineering, Schmack BioEnergy, Cleveland, Ohio
22. Sweena Heckman, CEO, Professional Landcare Network, Washington, DC
23. Sue Hennis, Curriculum Coordinator, TriCounty Schools, Wooster, Ohio
24. Neal Hess, Project Manager, The Trust for Public Land, Ohio Office, Cleveland, Ohio
25. James Hitchmoug, University of Sheffield, Westbank, Sheffield, England

26. Dave Hofacre, President, Ohio Lawn Care Association, Canal Fulton, Ohio
27. Todd Houser, Cuyahoga Soil and Water Conservation District, Valley View, Ohio
28. Jeff Jurassick, Project Manager, MTD, Inc., Cleveland, Ohio
29. Jeffrey R. Kerr, Principal, Kerr + Boron Associates, Brecksville, Ohio
30. Kurt Kluznik, President, Yardmaster, Landscape Architects & Contractors, Painesville, Ohio
31. Chris Korleski, Ohio EPA, Columbus, Ohio
32. Linda Mack, Northeast Ohio Regional Sewer District, Cleveland, Ohio
33. Kari Mackenbach, Water Resource Specialist, URS Corporation, Columbus, Ohio
34. Elaine Marsh, Ohio Greenways, Ohio Parks and Recreation Association, Peninsula, Ohio
35. Brad Masi, Executive Director, New Agrarian Center, Oberlin, Ohio
36. Beau Mastrine, Director of Campus Grounds, College of Wooster, Wooster, Ohio
37. Alec McClennan, Good Nature Lawn Care, Cleveland, Ohio
38. Peter McDermott, Network Weaver, Entrepreneurs for Sustainability, Cleveland, Ohio
39. Dave McDonald, Resource Conservation Planner, Seattle Public Utilities, Seattle, WA
40. Joel Montgomery, City Engineer, City of Wooster, Wooster, Ohio
41. David Noble, Board Director, Noble Foundation, Wooster, Ohio
42. Steven R. Pattie, CEO, The Pattie Group Inc., Novelty, Ohio
43. Steward Pickett, Cary Institute of Ecosystem Studies, Urbana, Millbrook, New York
44. Dr. Bal Rao, Research Director, Davey Tree Expert Company, Kent, Ohio
45. Bobbi Reichtell, Neighborhood Progress Inc., Senior Vice President, Cleveland, Ohio
46. Alayne L. Reitman, Cleveland Foundation, Cleveland, Ohio
47. Natalie Ronayne, Education Director, Cleveland Botanical Garden, Cleveland, Ohio
48. Dr. Bill Sheron, CEO, Wooster City Hospital, Wooster, Ohio
49. Douglas Sawyer, Maxine Goodman Levin School of Business, Cleveland State University, Cleveland, Ohio
50. Jim Storer, District Conservationist, Natural Resources Conservation Service, Cleveland, Ohio
51. Dr. William Shuster, Research Scientist, Hydrology, US EPA, Cincinnati, Ohio
52. Jeffery T. Verepej, Assistant Director, Undergraduate Admission, Case Western Reserve University, Cleveland, Ohio
53. Tom Waggoner, Vice President, The Andersons Inc., Toledo, Ohio
54. Zhanna Yermakov, Chicago, Park District, Chicago, Illinois
55. Anita Zurbrugg, Assistant Director, Center for Agriculture in the Environment, American Farmland Trust, DeKalb, Illinois
56. Jay Williams, Mayor, Youngstown, Ohio
57. Marcy Kaptur, US Congress, Toledo, Ohio
58. Chris Norman, Director, Crown Point Ecology Center, Ohio
59. Darwin Kelsey, Cuyahoga Valley Countryside Conservancy, Cleveland, Ohio
60. Mike Hamm, CS Mott Chair in Sustainable Agriculture, Michigan State University, Michigan
61. Susan Smalley, Director CS Mott Group in Sustainable Agriculture, Michigan State University, Michigan
62. Cheryl Danley, CS Mott Group in Sustainable Agriculture, Michigan State University, Michigan
63. Anne Scott, CS Mott Group in Sustainable Agriculture, Michigan State University, Michigan
64. Greg Boulos, Pennsylvania Association for Sustainable Agriculture, Pittsburgh

References

- Cheng, Z., Richmond, D. S. Salminen, S. O. & Grewal, P. S. 2008. Ecology of urban lawns under three management regimes. *Urban Ecosys.* 11, 177-195.
- Cheng, Z., Grewal, P. S., Stinner, B. R., Hurto, K. A. & Hamza, H. B. 2008. Effects of turfgrass management practices on soil nematode community and nutrient pools. *Appl. Soil Ecol.* 38, 174-184.
- Cheng, Z. & Grewal, P. S. 2009. Dynamics of the soil nematode food web and nutrient pools under tall fescue lawns established on soil matrices resulting from common urban development activities. *Appl. Soil. Ecol.* (in press)
- Dillman, D.A. (2006). *Mail and Internet Surveys: The Tailored Design Method*, Wiley, Indianapolis, IN.
- Park, S., Cheng, Z., McSpadden Gardener, B. B. & Grewal, P. S. 2009. Abundance and diversity of soilborne nitrogen-fixing bacteria in tall fescue lawns established on different soil matrices common in urban areas. *Appl. Soil Ecol.* Submitted.
- Singh, M. (2007). Soil organic carbon pools in turfgrass systems of Ohio. Ph.D. Thesis, Ohio State University.