

UNIVERSITY OF WISCONSIN EXTENSION DEPARTMENT
OF AGRICULTURE AND LIFE SCIENCES

Vijaikumar Pandian

Tenured Faculty Review - April 13, 2016

Position Title: Agriculture Agent Specializing in Horticulture

Rank: Associate Professor, 2011 to present

County: Brown

Program Responsibilities: 100% Agriculture (county based)

1. Major Programs Development/Implementation/Teaching Impacts: (2011 – 2015)

Commercial Horticulture Programs

a. Landscape and Grounds Maintenance Short Course

Situation: The landscape and lawn service industry is a fast growing small business sector in Brown County (BC). It generates nearly 30 million dollars of economic activity (2013 U.S. Census Bureau NAICS: 561730) and provides many seasonal jobs in the county. This drives the need for workforce training on various sustainable landscape management practices that provides cost efficient and environmentally friendly solutions in the landscapes.

Response: In partnership with the Green Bay and Fox Valley chapters of the Wisconsin Landscape Contractors Association (WLCA), I offer a four week series program annually to train the landscape and lawn service providers on sustainable landscape practices utilizing resources from the University of Wisconsin Extension (UWEX) and Green Industry professionals. I created PowerPoint materials and co-presented at the short course program on the following topics – “Pruning Shrubs (2013)” and “Proper Tree Planting Demonstration (2014)”. On average 55 participants attend the short course program every year. A written post evaluation for 2013 (**Exhibit 1**) and 2014 programs was conducted at the end of every session.

Result: Prior training knowledge on pruning shrubs in 2013 (n=28) and proper tree planting demonstration in 2014 (n= 33) rated by 29% and 19% respondents respectively as “Very little” or “Somewhat,” and post training knowledge rated by 82% and 92% respondents respectively as “Quite a bit” or “A lot”. Forty percent of respondents in the 2013 program evaluation indicated that they are likely to implement the landscape practices to a “Great extent” as a result of attending the sessions. In addition, I received the following comments in the evaluations: *“Excellent pruning handouts. Thank you! Live samples were great idea (2013)”* and *“The hands on proper tree planting were excellent (2014)”*.

Impact: In January 2016, a written survey was sent through email to previous years’ participants and distributed during the current year short course program participants to assess the program’s long term impact. Twenty participants responded (n=35) by attending the short course program in previous years and 15 out of the 20 respondents implemented new changes/practices as a result of the past training program. Three respondents reported their change in pruning techniques both in trees and shrubs. Responding to the nature of impact that benefitted them from implementing the new practices/change in their work field, 67% indicated an increase in work efficiency and customer satisfaction, 47% responded to environmental protection and 40% towards an increase in business.

The short course program continues to provide an excellent learning opportunity for the local landscape and lawn service industry to enhance their professional skills. Comment stated by a respondent in the 2014 evaluation includes *“Loved all the presentations, great classes! I knew a lot coming in, but learned even more on the way out”*. More than 250 people benefited through this training program in the past five years.

b. Greenhouse Growers Training Program

Situation: Brown County has 8 major greenhouse growers that provide plant materials for many retail centers and local residents. The outbreak of downy mildew fungal plant disease in summer 2013 affected the production

and sale of impatiens among local growers. This has subsequently led to their need for timely educational information and training opportunities in the region.

Response: In January 2014, I organized and hosted a half day “Greenhouse Grower’s Seminar” program in partnership with local greenhouse business stakeholders. Thirty-three people from the Northeast Wisconsin (NEW) region participated in the training program. Landscape instructors and their students from local technical colleges also attended this program. Various educational topics related to pest and disease management were presented by the speakers from UWEX and private industry representatives sponsored by the stakeholders. A written post evaluation and need assessment survey was collected at the end of the program.

Result: In the post evaluation survey (n=28), 90% of the participants rated the overall quality of the training program “Good” or “Excellent” (**Exhibit 2**). Fifty-two percent of the participants felt that the information presented in the program is “likely” applicable in their work life and 37% rated it as “A great deal”. During a follow up interaction on a site visit in summer 2014 (n=4), three growers stated their change in management practices by growing more New Guinea impatiens resistant to the fungal disease and adopted preventive fungicide treatment strategies on regular impatiens based on the information presented at the training program. One of the growers referred their clients to the UWEX Garden Fact sheet on “Impatiens downy mildew” and shared the BC UWEX plant health clinic contact information for plant related problems.

Impact: The success of 2014 commercial greenhouse training program has led to an increase in participation of the growers in subsequent years. In 2016 the training program was offered for a full day and has attracted more than 40 participants in the NEW region. Comment stated by a participant in the 2016 post evaluation includes *“It’s always great for all the resources given. Timeframe is great. I travel pretty far, so able to get here easily. Definitely worthwhile day! Thank you”*. This program effort presented a unique opportunity to build a relationship with local greenhouse growers that hadn’t existed in the past, and it helped them to build a better network connection with other growers in the region.

Consumer Horticulture Programs

a. Master Gardener Level 1 Training Program and Support Towards Community Garden Projects

Situation: The benefits of gardening are endless and rewarding. As more communities begin to understand the value of gardening, there has been a growing demand for the Master Gardener Volunteer (MGV)’s assistance in local garden projects and in horticulture outreach education.

Response: To generate more MGVs, I began to offer the Master Gardener (MG) Level 1 training program every year since 2013. I taught 10 out of 12 sessions, provided volunteer opportunities and trained a total of 79 new MGVs from 2013 to 2015. During the training program, an interactive discussion on volunteerism with a team approach concept was held to generate interest in the MGV’s garden projects and activities. The trainees were assigned to a team garden project of their interest which are coordinated by a certified MGV to organize, execute and maintain the local garden project and also develop an outreach activity during the growing season.

Result: The 2015 post training evaluation (n=12) result shows 83% of the respondents are completely satisfied with the overall information provided at the 12 week sessions. Prior knowledge before MG training was rated at an average of 1.74 (scale 1 to 4, 1 being very little and 4 being a lot) and post MG training knowledge was rated at 3.09. Comment stated by a respondent in the 2015 evaluation includes *“I found all the classes to be useful and*

I always learned something new at each class. Thanks for the opportunity to increase my gardening/horticulture knowledge”.

Overall in 2015, the number of certified MGV’s increased to 76 members in comparison to 57 certified MGVs in 2012. The number of community demonstration gardens undertaken by the Northeast Wisconsin Master Gardener Association (NEWMGA) increased to 8 projects in 2015. Summarized below is the list of community garden projects, volunteer service hours and number (No.) of volunteers participated for each project in 2011, 2013 and 2015.

Name of the project	2011 Volunteer hours & No. of participants	2013 Volunteer hours & No. of participants	2015 Volunteer hours & No. of participants
Green Bay Botanical Garden (GBBG) – Small Space Garden	345 (18 MGV’s)	358 (15 MGV’s)	456 (16 MGVs)
YMCA Children’s Garden	212 (5 MGV’s)	260 (9 MGV’s)	213 (9 MGVs)
St. Philip Garden	187 (8 MGV’s)	185 (6 MGV’s)	Discontinued
Community Treatment Center Garden	118 (5 MGV’s)	324 (11 MGV’s)	Project completed
UW Extension’s Garden		96 (7 MGV’s)	167 (6 MGVs)
Blueberry & Novel Fruit Trial garden			106 (6 MGVs)
Central Library Garden			108 (4 MGV’s)
De Pere Wildlife Pier Garden			240 (14 MGV’s)
Unity Hospice Garden			30 (6 MGV’s)
St. Mark’s Church Garden			139 (5 MGV’s)
Total	862 hours	1223 hours	1459 hours

Impact: Through multiple demonstration gardens in the community, the MGVs reached out to diverse audiences through their ongoing outreach activities (YMCA Healthy Kids Day, Vegetable Tasting Event, St. Mark Summer Open House Events, and Garden Field Day) and established a direct contact with more than 2,500 people in 2015. MGVs helped to increase the food security in the community by donating more than 1000 pounds of fresh vegetables grown in the demonstration gardens to local pantries.

b. Urban Blueberry Outreach Programs

Situation: Rich in antioxidants, blueberries are one of the most popular small fruit crops but are difficult to grow in high alkaline soil. Yet there is a strong interest among gardeners to raise blueberries in an alternative growing media in alkaline landscape.

Response: In December 2010, I co-published UWEX Garden Fact sheet “Growing Blueberries in Containers” (<https://hort.uwex.edu/articles/growing-blueberries-containers>) that details alternative growing techniques in soilless media. In 2012, I created a YouTube video (<https://www.youtube.com/watch?v=1BHX-Tvfdrk>) in partnership with the NEWMGA based on the UWEX fact sheet demonstrating the alternate techniques. I wrote and published short articles in growing blueberries in 2011 and 2014 for the Green Bay Press Gazette as part of my weekly garden column. To promote further interest, blueberry demonstration trial gardens were established at the GBBG in 2011 and at the BC UWEX grounds in 2013. Several public tours were offered by the MGVs at the demonstration gardens. I also developed a PowerPoint presentation “Growing Blueberries in Containers”

(**Exhibit 3**), gave 12 public talks from 2012 to 2015 including at the 2014 Wisconsin (WI) Garden Expo in Madison, and shared a copy of my presentation to the Marinette County UWEX Agriculture Agent.

Result: Nearly 38,000 viewers accessed the YouTube video on growing blueberries in containers. Comments posted on the YouTube webpage by a viewer include *“This video was so well made. Thank you so much for taking the time to share this information. I feel like I just got a one-on-one lesson with some master gardeners”*. Google analytics report indicate that UWEX fact sheet on growing blueberries ranked one among the top four viewed fact sheets at the horticulture team website and has 6,055 page views in 2015. Post training written evaluation results (n=27) from the 2013 talk at the GBBG demonstration trial garden site indicated that 16 respondents are likely to grow blueberries in containers. Comment stated in the evaluation results includes *“Very informative and demonstration was easy to follow”* and *“Information was complete, organized presentation”*.

Impact: My outreach educational programs promoted the interest and confidence among urban gardeners to grow container blueberries in their alkaline landscape. Six consumers notified me through email on their success in growing blueberries. An email comment from a consumer in April 2015 stated *“Vijai, I took your class last year on growing blueberries in containers. I over-wintered mine covered up in my garage. They are doing very well”*. Two other consumers modified the growing techniques based on my talk and had success in growing blueberries in trenches using the soilless media.

c. Master Gardener Level 2 Training “Plant Health and Diagnostics”

Situation: On average 3,000 consumers seek help from the BC UWEX’s horticulture help desk through phone calls, emails and walk-ins every year for reliable garden info. To extend my capacity and to better serve consumers in a timely manner, there is a strong need to train MGVs in answering consumer gardening questions at the horticulture help desk.

Response: In 2011, 2013 and 2014, I offered a six week MG Level 2 training program on “General Plant Health and Diagnostics”. In 2012 and 2015, I offered the MG Level 2 diagnostic training program on specialized topics “Landscape Trees & Shrubs” and “Weed Management” respectively. I taught most of the sessions each year, invited guest speakers and organized a local nursery tour. An average of 20 MGVs were trained every year through the MG Level 2 program.

Result: In the 2012 post training evaluation survey (n=14) results, prior knowledge before the training on landscape trees and shrub was rated an average of 2.35 (Likert scale 1 to 5, 1 being lowest and 5 being highest) and post training knowledge rated at an average 4.2. Comment stated in the evaluation by a participant *“This training on landscape trees was excellent! I appreciated the scope and variety of topics covered over the time involved. It was well organized – each session went in to depth and could have been a stand-alone presentation of its own. Wonderful use of community resources”*. During the growing season, an average of 10 MGVs trained through the Level 2 MG program assisted in answering consumer calls, emails and walk-ins at the horticulture help desk. In 2015, eleven MGVs rendered a total of 256 hours of service at the horticulture help desk. Since 2013, a team of MGVs at the horticulture help desk published a weekly “Brown County Plant Health Clinic Diagnostic Updates” e-newsletter during the growing season which was distributed through email to all MGVs, landscapers, GBBG Club members, local garden organizations and county residents (**Exhibit 4**).

Impact: The assistance of trained MGVs at the horticulture help desk increased the efficiency in responding to consumer calls on timely manner and enabled me to organize and conduct summer horticulture programs and classes. Comments from consumers stated in their email response to our MGVs at the horticulture help desk includes *“It is nice to have a resource like this to go to (2015)”*, *“This was most helpful information. Within 1 hour the larvae (pear slug sawfly) were dead. Thank you so much (2015)”*.

d. Other Consumer Horticulture Programs:

Garden Field Day: To educate consumers on best management practices in horticulture, I offered a half day summer outdoor program in 2014 and 2015 at the BC UWEX grounds. At the 2014 garden field day, I demonstrated best management practices in growing tomatoes to 49 consumers. In the 2014 post training evaluation survey (n=26), prior knowledge on tomato management practices was rated by 60% respondents as “Somewhat” and post knowledge by 88% respondents as “Quite a bit” or “A lot”.

Garden Series: To promote garden interest and raise consumer awareness on new trends and techniques in gardening, I organized an annual “Garden Series” program on Saturday mornings once a month from February to April for the past four years (**Exhibit 5**). Regional and statewide speakers have been invited to present at this program. I raised approximately \$1,500 sponsorship each year from local landscapers to support the program expenses. An average of 75 people attended each session. In 2015 post training evaluation (n= 63) survey, respondents rated the overall value of this program at an average 4.5 (scale 1 to 5, 1 being lowest and 5 being highest).

Public Presentations: In response to local requests, I offered multiple presentations to various organizations and hosted individual classes and demonstrations on many horticulture topics at the BC UWEX office. In 2015, I offered 16 presentations and two demonstration classes for a total of 524 people. Through a Hmong interpreter, I presented a topic “Organic Fertilizers & Pest Management Practices” for eight Hmong community gardeners in summer 2015.

2. Examples of Teamwork – Within UWEX and with External Partners

Within UWEX

- **Support to UWEX Agriculture Agents (2007- present):** Continue to provide technical assistance in the horticulture field to UWEX agents in Shawano, Kewaunee, Calumet, Door and Manitowoc Counties.
- **Horticulture Team Website/Social media (2010 – present):** Coordinated the UWEX horticulture team’s website/ social media work group, developed and launched a renewed horticulture team website (hort.uwex.edu), horticulture team Twitter and horticulture team Facebook page in 2015. Developed, printed and distributed horticulture team website bookmark cards to UWEX agents, educators and public.
- **BC Community Garden Program (2014 – present):** Provided technical assistance to the BC community garden coordinator in the development and management of the community gardens and offered multiple presentations to the community garden program.
- **Statewide Urban Forestry Workshop (2015 – present):** Collaborated with UWEX horticulture team work group members and with the Wisconsin Department of Natural Resource (WDNR) and offered the urban forestry program successfully at statewide level in six locations including Green Bay.

- **Tree Walk with 4-H Camp Kids (2015):** Collaborated with the BC 4-H Youth Educator and led an outdoor tree walk session with youth attending 4-H camp kids.
- **Regional Urban Forestry Workshop (2012 – 2014):** Offered urban forestry workshops in partnership with the Outagamie County Crop & Soil Science Educator, Winnebago County Horticulture Educator and with the regional urban forestry coordinator from the WDNR in Green Bay, Appleton and Oshkosh locations.

With External Partners

- **GBBG (2007 – present):** Provided technical support in the garden development and establishment of the small space garden project in partnership with NEWMGA.
- **Northeast Wisconsin Technical College (NWTC) Landscape Horticulture Department (2007 – present):** Member of the landscape horticulture advisory committee, offered guest lectures.
- **WLCA Green Bay (2009 – present):** Active educational member, provided technical assistance, developed landscape and grounds maintenance short course program.
- **YMCA Howard (2011 – present):** Established raised bed garden for youths, provided outreach education in partnership with NEWMGA, and participated in the YMCA Healthy Kids Day event.
- **BC Golf Course (2012 – 2015):** Provided technical support in tree diagnostics & species selection, and designed landscape beds.
- **BC Central Library (2013, 2015):** Helped in designing the children’s garden, \$25,000 was raised in 24 hours following release of the garden design, and provided outreach education in partnership with NEWMGA.
- **BC Community Treatment Center (2011– 2013):** Developed therapeutic demonstration garden in partnership with NEWMGA

3. Contributions to the Profession/University:

The University

- UWEX – Horticulture Team, Member, 2006-present
- UWEX – Horticulture Website Work Group, Coordinator, 2010 – present
- UWEX – Urban Forestry Program Work Group, Member, 2015 – present
- UWEX East-Metro Regional Resource Management Team, Member, 2015 – present
- UWEX Faculty Senate, Member, 2014
- UWEX East-Metro Horticulture Professional Development Team, Coordinator, 2013
- UWEX ANRE Conference Planning Committee, Member, 2012

The Profession

- National Association of County Agriculture Agents, Member, 2005 – present
- Wisconsin Association of County Agriculture Agents, 2005 – present
- WLCA – Green Bay Chapter, Member, 2006 –present
- BC Invasive Species Workgroup, Director, 2006 – present
- NEW MGA, Advisor, 2006 – present
- NWTC Landscape Program Advisory Committee, Member, 2007 – present
- NEW Urban Foresters Network, Member, 2007 – present
- Invasive Plant Association of Wisconsin, Board member, 2007- 2012

4. Applied Research/ Publications/ Newsletter/ Major Presentations:

Demonstration Plots

- Low maintenance turf grass variety trial, in cooperation with UWEX Specialist Doug Soldat, 2012 – present
- Blueberry variety trial in containers and trenches, 2013 – present

Factsheets/ Articles/Publications

- Weekly Home Garden Column, Green Bay Press Gazette, 2006 – present
- *Seven Son Flower – A Fall Blooming Tree*, WI MG Volunteer Vibe, October 2015
- *Tips for Pruning Apple Trees*, WI MG Volunteer Vibe, April 2015
- *Seeding & Establishing Native Prairies*, WI MG Volunteer Vibe, September 2014
- *Lawn Disease Quick Reference*, V.Pandian, P.Liesch, J.Kerns, WI Garden Facts XHT1212, January 2013
- *Invasive Phragmites*, V.Pandian, M.Renz, WI Garden Facts XHT1205, December 2011

Newsletter/ Educational Banners/ Calendar

- BC UWEX Plant Health Clinic's Diagnostic Update Newsletter, June to September, Weekly, 2013 – 2015
(Exhibit 4)
- Landscape and Garden Calendars for Northeast Wisconsin, 2013 – 2016
- Emerald Ash Borer (EAB) & Ash Alternatives, retractable educational banner, 2011

Regional/State Presentations

- *Emerging Trends in Urban Landscape*, Marquette Beautification & Restoration Committee's Annual Garden Conference, Marquette, MI, 2014
- *Growing Blueberries in Containers*, WI Public Television's Garden Expo, Madison 2014
- *Diagnosing Plant Problems – A Schematic Approach*, UWEX Responding to Horticulture Inquiries, Wausau, WI 2013

5. Administrative Responsibilities:

- Hire and supervise seasonal part time horticulture assistant involved in answering consumer garden questions at the horticulture help desk, 2007 – present
- Hire and supervise seasonal full time horticulture grounds assistant intern in grounds maintenance at the BC UWEX office and at the horticulture help desk, 2012 – present
- Hire and supervise seasonal part time invasive species coordinator involved in the management of invasive plant species in the BC, 2007 – present
- Hire two full time summer invasive species aide interns to assist the invasive species coordinator in control of invasive plant species in the BC, 2007 – present

6. Professional Growth & Development:

- Wisconsin Turf Grass Association's Field Day, Madison, (2008 – present)
- East - Metro Regional Conference, various locations (2011 – 2015)
- Wisconsin Horticulture Updates, UWEX Horticulture Team, Weekly Wisline (2011 – 2015)
- Wisconsin Farm Technology Days, various locations (2011 – 2015)

- ANRE conference, Wisconsin Dells (2011 – 2014)
- Wisconsin Nursery Growers Association's Field Day, Sturgeon Bay (2014)
- Wisconsin Arborist Association's Conference, Green Bay (2011 – 2013)
- Agrecol LLC, UWEX Horticulture Team, Field tour, Evansville (2013)
- Invasive Plant Species Workshop, Arlington (2013)
- UW Peninsula Ag Research Station's Fruit School, Sturgeon Bay (2013)
- UWEX Organic Vegetable Field Day, Madison (2013)

7. Future Plans for Professional Improvements for the Next Five Years: (Separate sheet attached)

8. Additional Information:

Grants

- Staples Foundation 2015 – Co-authored the grant with NEW MGVs to build teaching greenhouse for children. Total awarded - \$3,500
- Staples Foundation 2013 – Wrote the grant to develop educational and demonstration gardening programs for children. Total awarded -\$3000
- WDNR Urban Forestry Grant 2011 – Co-authored the grant and collaborated with MGVs to develop educational programs and materials on EAB and establish tree diagnostic service at the GBBG. Total awarded - \$15,465

Awards

- NWTC Arbor Day Celebration Honor Award, presented by NWTC, 2014
- Urban Forestry Project Partnership Award, presented by Wisconsin Arborist Association & WDNR, 2013

Future goals

- I will continue the commercial horticulture programs with the major stakeholders in the Green Industry, strengthen the program participation of the industry's workforce by further identifying their educational needs, offer hands on training sessions with Spanish interpretations, and provide onsite diagnostic consultations.
- In the MG program, there is a strong need for more network connection within the MG community garden projects and to sustain new volunteers in the garden projects. With the funding help from the NEWMGA, I plan to hire a MGV coordinator to assist new volunteers in their project selection, organize summer garden tours, and bridge the communication gap through social media and monthly newsletter.
- I am seeking funding opportunities to conduct an applied blueberry research trial program on the variety performance in the container and trench systems. This research program will help consumers in selecting right variety for container grown blueberries.
- To further expand the horticulture programs for youths and adults, BC has contributed \$25,000 to build a new greenhouse at the UWEX office. I am currently involved in coordinating the greenhouse construction project and will be developing educational programs for children and greenhouse workforce training for disabled adults.