



Master Gardener Program

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2014 WSU Extension State Master Gardener Report

The WSU Extension Master Gardener Program provides public education in gardening and environmental stewardship based on research at WSU and other university systems. Volunteers are trained to be community educators about issues of importance in their local communities that enhance natural resources, sustain communities, and improve the health and wellness of Washington residents. Each year Master Gardener volunteers enhance their horticultural knowledge, learn new skills and stay informed of new research by attending a minimum number of educational classes called Continuing Education.

The WSU Extension Master Gardener Program has a rich history, beginning in the Seattle area in 1973, and spreading from most counties in Washington to the entire United States and abroad.

Total certified Master Gardener volunteers: 3,309

Total Master Gardener volunteer hours reported: 223,048

Total Master Gardener Continuing Education hours reported: 44,358

Average volunteer hours per Master Gardener: 67.4

Total Master Gardener plant diagnostic clinics: 4,657

Total Master Gardener classes for the public: 656

Total Master Gardener hands-on demonstrations: 422

Master Gardener Volunteers taught **8,719 people vegetable gardening**.

Research shows that learning to grow vegetables improves eating habits and health. The more involved people are with growing their own food, the more likely they are to eat it. This correlates to a diet consisting of more fruits and vegetables, and evidence shows that gardeners eat more fresh produce than non-gardeners. Diets high in fresh fruits and vegetables are known to prevent obesity, diabetes and other chronic illnesses. Seniors who garden eat more fruits and vegetables, are more physically active, and report a higher quality of life than non-gardeners.

For instance:

In **Snohomish County**, the work Master Gardener (MG) volunteers do with the Tulalip Tribes to enhance their gardening program continues to grow. The goal of this project is to increase tribal members' interest in growing and eating fresh produce. The gardening lessons are partnered with the Tulalips education about diabetes, an epidemic among tribes across the United States. A large greenhouse installed by the Tulalip Tribes several years ago had not been used until Master Gardeners began gardening with them in 2014. Master Gardeners worked along-side 30 tribal members to start thousands of vegetable plants to plant in their gardens and donate to school and community gardens. During the gardening season Master Gardeners were at the garden often to give advice on best gardening practices and increase these new gardeners' chances for successful harvests.



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MG Volunteers taught in **208 community gardens**.

Studies of community garden participants show more benefits to neighborhoods than just better access to fresh food and nutrition. Community gardens foster increased community involvement and pride among residents, increased neighborhood safety, increased activity and sense of well-being, and less isolation among residents. Community gardens also help people save money, preserve green space, and are beginning to contribute to the urban food-system. Recent research indicates that gardening methods used by community gardeners resemble those methods used in bio-intensive high-production farming, which result in larger yields per square foot of garden space than in conventional farming systems. Additionally, community gardens bridge ethnic, economic, and age differences.

In 2014, under the leadership of Master Gardeners, community and demonstration gardens donated over 64 tons of produce to food banks or other community supported agencies in Washington.

For instance:

In **Pierce County**, Master Gardener volunteers started a vegetable gardening project in 2010 with the inmates at the Washington Corrections Center for Women (WCCW) in Purdy, WA. Twenty women participate in the project and grew strawberries, zucchini, potatoes, tomatoes, lettuce, carrots, beets, winter greens and other vegetable crops. In 2014 11,859 pounds of produce were grown and harvested by 53 women who participated in the program at WCCW under the guidance of Master Gardeners. Since 2010, more than 40,000 pounds of produce have been harvested for the Corrections Center cafeteria, reducing food costs and increasing the amount of fresh produce the women consume. The vegetable gardening program is part of the horticulture program and also teaches the women horticultural and team working skills that prepare them for re-entry into society. One incarcerated woman who works in the vegetable gardens with Master Gardeners stated, "The gardens have given me a sense of normalcy, the greenhouse a venue to grow and flourish in planting as well as mentally... I have learned techniques that I will use not only today, but for the many tomorrows, as well. I look forward to a program that has given me back my sense of self, respect and integrity that I had lost along the way."

In **Chelan County**, a partnership formed between Columbia Valley Community Health Centers and the WSU Chelan County Master Gardeners to build Eastmont Community Garden. The garden offers affordable garden space where people of the Wenatchee Valley can grow food, improve physical fitness and strengthen families and friendships as they learn about nutrition and gardening. Pre- and post-program surveys of the Eastmont Community Gardeners showed a positive change in all of these indicators. For instance, 830 pounds of produce were preserved by gardeners and 900 pounds of produce were donated to food banks. Vegetable consumption increased by an average of 36 percent and most gardeners reported increasing their consumption of fresh fruits and vegetables from 2-3 servings per day to 4-5 servings per day. The gardeners also estimated they saved an overall total of 2,000 dollars during the gardening season and through preserving their harvest. Self-assessed stress levels recorded before and after the gardening season indicated stress levels decreased by 13 percent on average, while physical fitness levels increased by 13 percent on average.



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In **Benton-Franklin Counties**, the Community Gardening/Plant-a-Row for the Hungry Master Gardener team helped members of the community build 89 new raised garden beds. Eight new community and social service gardens were established. These were built at a new housing project for adults with intellectual and other disabilities, a shelter for homeless teens, and the juvenile justice center. Six new Habitat for Humanity homes also received garden beds under the guidance of Master Gardeners.

Overall, Master Gardeners helped provide 300 more individuals the opportunity to grow fresh produce for their families. With a typical community gardener raising at least 100 pounds, this meant that the team's 2014 community garden activities resulted in these gardeners growing 30,000 pounds of produce valued at \$60,000. Sixty Master Gardeners helped mentor 24 community gardens.

Master Gardener Volunteers taught **27,730 youth**.

School and youth gardens create more positive attitudes among young people regarding fruits and vegetables, which leads to higher consumption of fruits and vegetables by the students and their families who garden. Studies of students involved in school gardens show higher nutrition and environmental awareness, higher science test scores, increased self-esteem and interpersonal relationships, and better work and team skills than their non-gardening peers.

For instance:

In **Benton-Franklin Counties** Master Gardeners helped establish a raised bed garden at the Benton-Franklin Justice Facility. This was the first time in more than ten years that the youth were allowed outside the facility for an activity. The youth helped build the bed, select the crops to be planted, plant the garden, and harvest the produce. Master Gardeners mentored both the youth and facility staff.

Participation in gardening was viewed by the youth as a reward because only those who exhibited good behavior were allowed to participate in garden activities. The youth gardeners worked with kitchen staff to decide what crops would be planted and how they would be used in meals. The most highly desired vegetables were tomatoes, peppers, and onions for making salsa. As a result of the gardening project, more fresh produce was introduced into the diets of the youth, and they gained access to fresh air and physical activity. They also experienced greater self-esteem by growing their own produce and donating extra to local food banks. Staff and youth indicated that the garden was such a success, they have asked the Master Gardeners to help them expand it in 2015.

In **Grays Harbor-Pacific Counties** Master Gardeners partnered with the Grays Harbor Pacific County Public Health and Social Services to implement a new youth gardening program that offers meaningful employment opportunities to teenagers in low-income neighborhoods. The purpose of the program, Cultivating Roots, is to provide an opportunity for youth to learn critical employment skills, non-violent communication, and how to have healthy relationships. Through this program, they also learn how to grow and prepare their own food. This provides more access to fresh vegetables and may have an influence on the youths' food choices. Low-income neighborhoods are typically food insecure and/or food deserts. The USDA defines food deserts as "urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food. Instead of supermarkets and grocery stores, these



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communities may have no food access or are served only by fast food restaurants and convenience stores that offer few healthy, affordable foods. The lack of access contributes to a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease.” (USDA <http://apps.ams.usda.gov/fooddeserts/fooddeserts.aspx>)

Master Gardeners provided guidance to Public Health and Social Services in the design and building of the garden. The produce grown from the garden was given to the youth who worked in the garden and to the tenants of the housing project in which the garden is located. The garden will be expanded in 2015 and the teenagers who participated in the 2014 program will develop their leadership skills as peer-mentors for the new youth gardeners.

MG Volunteers taught 5,813 residents how to conserve water and protect water quality.

Washington’s rivers, lakes and aquifers provide water for agricultural, residential, and recreational use, and provide wildlife habitat. Safe, reliable sources of water must be maintained to meet the needs of our growing population. Water-conserving garden practices such as mulching, efficient irrigation, and planting drought tolerant plants are the most cost effective and environmentally sound ways to reduce the demand of our limited water supplies. Stormwater runoff has been linked to pollution of drinking water supplies and declining health of wildlife and fish species and has been identified as the leading cause of pollution in the Puget Sound region. Urban gardening best management practices to protect water quality include reducing the use of pesticides and fertilizers, composting, mulching and using groundcovers to reduce erosion, grass cycling, and planting rain gardens that capture and filter water runoff from roofs and other impervious surfaces.

For Instance:

In **Snohomish County**, Washington State University Extension developed the first rain garden program in 2008. Partnerships now include the Snohomish Conservation District and the City of Everett. Rain Gardens are landscaping features adapted to provide on-site treatment of stormwater runoff. They are designed to mimic forested ecosystems, helping to remove harmful pollutants from stormwater runoff as it infiltrates and recharges our groundwater. Master Gardener Rain Garden Mentors provide access to the *Rain Garden Manual for Western Washington Homeowners* and have published rain garden brochures, articles, and been interviewed on radio programs. They provided guidance in designing and installing sixteen rain gardens in 2014. As a result of this program, there have been 100 outreach events across the state, including Rain Garden clinics and presentations, as well as assistance with 66 private rain garden installations reported by WSU Extension Offices. Two hundred Master Gardeners throughout the Puget Sound have been trained as Rain Garden Mentors and are actively supporting homeowners on rain garden installations.

In **Kitsap County**, the Rain Garden Mentor program is made up of trained volunteers who help homeowners understand the benefits of rain gardens while assisting in technical details such as site selection and planning, and plant suggestions. Volunteers meet with homeowners at their site and provide them with valuable information to help in the planning process. Rain Garden Mentors explain



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how water can be routed from impervious surfaces like roof tops and driveways into a rain garden. WSU's Rain Garden Mentor volunteers are recruited from existing WSU Kitsap Master Gardener and Water Quality Stewardship volunteers, and therefore have a wide background in native plants, water conservation practices, riparian environments, shoreline stewardship, and least toxic gardening methods.

MG Volunteers taught **4,398 residents to use Integrated Pest Management methods.**

Integrated Pest Management (IPM) is a proven system for managing pests (insects, diseases and weeds) in ways that keep pest damage to a tolerable level for plant health and minimize threats to unintended animal and plant species, as well as the environment. Master Gardeners teach cultural, mechanical, biological, and chemical methods of pest management, stressing plant health measures to prevent plant problems and using least toxic methods of pest control when necessary.

MG Volunteers taught **3,575 residents proper tree planting and maintenance practices.**

Research points to many benefits of a healthy urban and community forest, such as moderation of extreme air and soil temperatures, conservation of energy, improved air quality, reduction of stormwater runoff, lower noise levels, and increased wildlife habitat. For instance, a 25-foot tree can reduce heating and cooling of a typical residence by 8-10%. Trees modify the "heat island effect" in urban areas by evaporation through their foliage, which cools their immediate surroundings. Roots and fallen leaves help hold soil together and protect it from erosion. These benefits result in increased energy savings and increased survival and health of other landscape plants. In addition, trees and plants enhance property values and community assets, which results in an increased tax base for municipalities.

For Instance:

In **Clark County** Master Gardeners spent an afternoon talking with park visitors about the importance of trees and how they help to mitigate the heat island effect found in urban areas. They used a laser thermometer to take readings in different areas of the park and asked passers-by to guess those temperatures. The results of the Master Gardener readings that were shared with participants showed a 45 degree difference between areas beneath the park's biggest trees (68 degrees) and those areas without any shade (113 degrees). Park visitors were surprised to learn the difference was that large, which increased their awareness of the positive impacts of trees in their community.