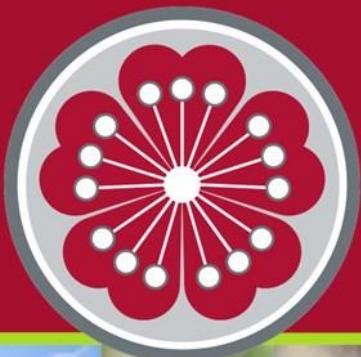




WASHINGTON STATE UNIVERSITY
EXTENSION



WASHINGTON STATE UNIVERSITY
EXTENSION MASTER GARDENER PROGRAM

Program Priority

Tool Kit

Effective use of Program Priorities

Table of Contents

WSU Master Gardener Program Priorities Tool Kit

Overview	2
Program Priorities	4
Tool Kit Contents	7
Using the Tool Kit	8
Telling Our Story	9

The Tool Kit

Clean Water	12
Water Conservation	14
Wildfire Preparedness	16
Local Food	18
Pollinators	20
Climate Change	22
Plant Biodiversity	24
Soil Health	26
Nearby Nature	28

Appendix

Lesson Plan Template
PPT Sample

Telling Our Story Team: Erika Johnson, Tim Kohlhauff, Adenea Thompson,
Mary Watts, and Jennifer Marquis

WSU EXTENSION MASTER GARDENER PROGRAM

WSU Master Gardener Program Priorities Tool Kit

Overview

Our Mission, Vision, Values, and Program Priorities, held collectively, describe who we are, what we do, why we do it, and the difference we make in the communities we serve. They are the foundation upon which our educational programming and delivery is built.

This toolbox is intended to facilitate the use of our program priorities by program coordinators and WSU Extension Master Gardener volunteers to plan, build, and evaluate educational programming. Successful use of the Program Priorities will enable WSU Extension to tell a compelling and impactful story about how the WSU Extension Master Gardener Program impacts important natural resources and community needs.

Our Program Priorities define the intersection between horticulture and our natural resources or community needs. They guide our daily work and help to focus our efforts. They are issues that the WSU Extension Master Gardener Program volunteers are trained for and are poised to address. WSU Extension Master Gardener volunteers are university trained volunteer educators who teach research-based horticulture skills and practices for the development of sustainable landscapes, for the protection of our natural resources and for the improvement of the health and wellness of communities.

Data that supports community understanding, recognition, and knowledge about how individuals can make a difference in the defined critical issues facing Washington residents will help paint a powerful picture for current and potential funding partners, because WSU Extension Master Gardener Program volunteers already have the skills to address them. It will give us shared language to use when presenting to internal and external stakeholders, will give us numbers to support that what we do makes a difference in our communities and will help us realize our vision of being a fully funded and cohesive statewide program.

Our program priorities will evolve over time in response to world, state and local changes, scientific discovery, politics, leadership, and other factors. Effective use of Program Priorities will help us to tell a more compelling and impactful Master Gardener story to our stakeholders, including staff at county, state and federal agencies, our peers and fellow WSU staff, students, and volunteers, as well as the public at large.

The following pages list our Program Priorities, provide learning outcomes, evaluation examples, examples of courses or activities, tools of the trade, and define the intersection between horticulture and each Program Priority. Using this toolkit will help you develop programming and will provide you with tools to use for presentations and evaluation.

Appendices offer examples of PowerPoint templates and a lesson plan. Lesson plans are always helpful and provide for succession planning and consistent use of curriculum and teaching methods which, when evaluated using this toolkit, will lead to meaningful information that can be used to tell a compelling and impactful story.

It is important to note that current programming should fit readily into one of the Program Priorities. This toolkit is intended to help all of us adapt our current presentations, events and activities, to make them stronger and in alignment with our program priorities.

Describing what we do through the program priorities is a new path for our Program, a new way of helping volunteers, community members and our funding partners (current and future) understand the connection between teaching sustainable horticulture information to the difference we make in the communities we serve.

Program Priorities

Our Program Priorities					
 CLIMATE CHANGE	Climate Change: The Extension Master Gardener Volunteer Program teaches ways to create resilient landscapes that are adapted to our changing climate.	 SOIL HEALTH	Soil Health: The Extension Master Gardener Volunteer Program encourages the building of healthy soils to prevent depletion and ensure the long-term viability of local food security and natural resources.	 PLANT BIODIVERSITY	Plant Biodiversity: The Extension Master Gardener Volunteer Program promotes stewardship of diverse ecosystems through invasive species management, native species conservation and restoration in landscapes.
 CLEAN WATER	Clean Water: The Extension Master Gardener Volunteer Program promotes integrated pest management to minimize polluted runoff.	 POLLINATORS	Pollinators: The Extension Master Gardener Volunteer Program teaches ways to help native bees and other pollinators thrive in home and community landscapes.	 NEARBY NATURE	Nearby Nature: The Extension Master Gardener Volunteer Program seeks to increase access to plants, green spaces and public landscapes to benefit the health and well-being of all.
 WATER CONSERVATION	Water Conservation: The Extension Master Gardener Volunteer Program promotes water-wise gardening and landscaping practices to conserve water.	 LOCAL FOOD	Local Food: The Extension Master Gardener Volunteer Program promotes the use of sustainable techniques for growing local food to improve individual and community health and wellness.	 WILDFIRE PREPAREDNESS	Wildfire Preparedness: The Extension Master Gardener Volunteer Program teaches fire-resistant landscaping principles to reduce the risk of loss due to wildfire.

It may help to understand the program priorities in this table form. Horticulture skills provide the foundation that volunteers and gardeners need to have a positive impact on the nine program priority areas. For example, understanding and putting into practice the horticultural tenets of Integrated Pest Management reduces the number of pesticides needed to maintain a healthy landscape, which in turn helps to protect our clean water supplies.

(Figure 1)

Program Priority	How We Achieve It	Why We Do It	Desired Outcome
Climate Change	By practicing climate-friendly gardening techniques	To adapt to climate change and mitigate its effects	Climate resilient communities
Clean Water	By practicing integrated pest management	To minimize polluted run off	Clean water in our lakes, streams, rivers and oceans
Water Conservation	By practicing waterwise gardening	To reduce the amount of water that is needed for landscapes	Plentiful water in our lakes, streams, rivers and aquifers
Soil Health	By protecting and building healthy soil	Because soil provides ecosystem services critical for life	Sustainability of natural resources and local food production
Pollinators	By providing food, water, and habitat for pollinators	Because pollination is an essential ecological survival function	Secure food supply and biodiverse ecosystem
Local Food	By practicing sustainable food gardening techniques	To increase access to fresh, nutrient-dense foods	Healthy and food secure families and communities
Plant Biodiversity	By managing invasive species and protecting native species	To protect against declines in ecosystem functioning	Healthy ecosystem that is diverse and thriving
Nearby Nature	By practicing sustainable horticulture skills	Because being around plants, in or out of doors, promotes health and wellness	Healthy individuals and communities
Wildfire Preparedness	By applying fire-resistant landscaping principles	To reduce the risk of loss due to wildfire	Wildfire-resistant communities

The Healthy People, Healthy Planet graphic (Fig 2.) is another way of understanding the Program Priorities. This graphic illustrates the interconnectedness of the work of the WSU Extension Master Gardener Program. It tells what we teach, why we teach it and the intended result in a broad brush visual.

Fig 2.



Tool Kit Contents

The tool kit includes the following:

A list of each **Program Priority** including a short explanatory statement. Also available as a poster, suitable for display in an office or at events wherever stakeholders are present.



Learning Outcomes examples. These follow a pattern which includes more-to-less-broad *Understanding, Recognition* and *Knowledge* statements. These are meant to guide, suggest or inspire specific desired educational outcomes for use in educational delivery such as for use in a presentation, document or educational article. There are both broad and specific examples.

- Master Gardener programming should ideally fit into one or more Program Priorities. To ensure a good fit, it may be helpful to work backwards from the Program Priority. This will help you be intentional about programming and learning objectives.



Evaluation examples. Taken directly from the learning outcomes, evaluation statements can be developed.



Intersection Between Horticulture and Priority. This is meant to illustrate the connection between Master Gardener activities and each Program Priority.



Examples/Projects/Activities. These are examples of programming that might be a good fit for a particular program priority. Note that some programming might fit under more than one program priority.



Tools of the Trade. Each Program Priority has its own PowerPoint presentation template and an icon suitable for placement into a document. There is also a basic lesson plan template for use in helping program developers to select content that supports one or more of the Program Priorities. All tools can be found in MS Teams in the Telling Our Story Team Tools for PC and Volunteer Use.

Using the Tool Kit

The following scenario illustrates use of the tool kit. Let's use Program Priority Local Food as our example. A Master Gardener expresses interest in developing a presentation, class, or a demonstration on pruning tomatoes in the home garden. The Program Coordinator and the volunteer should work through the following check list to align the presentation with the Program Priority.

Program Coordinator:

- Use the toolkit to show the volunteer the intersection between horticulture and the program priority,
- Discuss the learning objectives from broad to narrow and if needed help to define some of the specific abilities that students should leave the class knowing how to do.
- Provide the local food PPT template and discuss the notes on the slides so the volunteer understands our connection to WSU Extension and the intersection between horticulture and the program priority.
- Provide lesson plan template and help build the plan if needed.
- Discuss the importance of evaluation and data collection to show the difference we make in our communities. Proving that the difference we make in our communities matters will help to ensure current and future funding.
- Provide broad and specific evaluation questions and discuss the need to do retrospective pre and post survey.
- Help volunteer with evaluation process. Use Qualtrics, paper, or other means.

The Volunteer

- Create a class that readily connects to a program priority or adapt an existing course to strengthen the class, align it with a program priority, and evaluate success.
- Build a lesson plan.
- Use Program Priority PPT Template to add specific slides.
- Use the evaluation to measure broad and specific learning objectives.

Lesson plan and PPT presentation can be found in Appendices A and B.

Telling Our Story

Our story is about the difference we make to improve the health and wellness of individuals and communities and to protect our prized natural resources. Our program empowers and sustains diverse communities with relevant, unbiased, research-based horticulture and environmental stewardship education. In extension we tell our story through impact statements. Impact statements define the issue, detail our response, and describe the difference that response made to the communities we serve using both qualitative and quantitative data. Ideally, we would use the evaluation examples outlined in this toolkit to find out how much people learned (short-term), if they implemented what they learned (medium term) and if that implementation made a difference for the individual or the community (long term).

Below is an example of an impact statement from 2019. One could argue that we don't care about how many people we taught or how many school or community gardens we taught in. If we compare the data to the issue, we can say that we have helped people have direct access to food, which lowers risk for diabetes. We can say our involvement through school and community gardens empowers communities to make informed decisions about how to ensure their families, friends and neighbors have consistent access to healthy foods.

Our next steps in evaluation will give us a better understanding of the difference we make in our communities. The evaluation methods below will capture real, short term impact (difference) we make in the lives of individual people. It is imperative that we, after a period of time, survey the same individuals to see if they implemented what they learned and how that implementation made a difference in their lives or in their community.

Issue: (taken from the toolkit Intersection between horticulture and the priority)



13.8 million American households were food insecure in 2020, meaning at some time during the year, the household was unable to acquire enough food to meet the needs of all members because of insufficient money or other resources for food ([ERS-USDA](#)). Local food production reduces the economic and environmental impact of growing, processing, packaging and transporting food. People who have direct access to local food through farmers markets, community gardens or by growing their own, eat more fresh fruits and vegetables than people who do not. People in these communities have healthy BMI's and are at less risk for diabetes. Community, home and school gardens can help bring people closer to their food and to their neighbors. This coming together of people raises awareness around food insecurity and empowers communities to make informed decisions about how to ensure their families, friends and neighbors have consistent access to healthy foods. [NC State Extension](#) article by J. Dara Bloom.

Response: (in a typical non-covid year)

The WSU Master Gardener volunteers taught food gardening to communities across the state in an effort to close the food security gap and to support the consumption of healthy food.

- **4300** adults learned about vegetable gardening, growing small fruits and tree fruits
- **1500** youth learned about vegetable gardening, growing small fruits and tree fruits.
- Volunteers organized and taught in **68 school gardens**
- Volunteers organize and teach in **91 community and food bank gardens** that help feed Washington families
- **57500** pounds of produce was donated to local food banks.

For instance, **Snohomish County Master Gardeners** have taught a 6-week classes on Growing Groceries for five years. A couple who had never gardened before learned to grow their own food after attending the courses. This year they grew 250 pounds of tomatoes, 200 pounds of squash, and various varieties of artichokes, beans, greens, potatoes, corn, onions, leeks, and copious amounts of berries. They gave produce to neighbors and foodbanks after they filled their own pantry.

In **Yakima County**, Master Gardeners help to support the food supply chain by engaging with at risk youth who are in the Juvenile Justice Center. Youth learn to grow their own food at the salsa vegetable garden on the campus and to engage in healthy activities. Youth also learn about the importance of pollinators and in creating pollinator habitat. Growing food gives purpose to youth who are otherwise pathless.

In **San Juan County**, Master Gardeners taught low-income families to grow their own food. Families learned about site selection and soil types. Were encouraged to grow vegetables that their family likes to eat and about ideas for getting their children to eat fresh vegetables. Hands-on activities included transplanting starts, fertilizing, weeding, slug control and watering. Surveys showed the families learned specific techniques for successful food gardening. After completion of the series, families took a small container garden and a resource binder home with them.

Sharing and Changing Lives: Bringing People Together

A couple who attended a Growing Groceries Program said:

[We] attended the Growing Groceries Extension class sponsored by WSU two years ago. Prior to attending this class, we have not gardened. Let me describe what we and the good earth have done in two short years. Our freezer is full, our neighbor's cupboards are stocked, and the Food Bank shelves has some produce as well.

Participants of a vegetable garden series shared the following:

It was great to learn new information about veggies and this climate and learning the best way to plan and what veggies to plant." Gardening in our climate is very challenging and our classes help people to better understand how to feed their families with fresh, healthy produce in a sustainable and responsible manner.

The Tool Kit

Clean Water

Program Priority including a short explanatory statement.



Program Priority Clean Water: The Master Gardener Volunteer Program promotes integrated pest management to minimize polluted runoff.

Learning Outcomes examples.



	Learning Outcomes – Broad	Learning Outcomes - Specific
	<i>Understand</i> the importance of clean water on the health and well-being of people, local wildlife and natural ecosystems.	Learn that healthy rivers carry water to homes, farms, schools and businesses. Along the way they nourish entire ecosystems and provide important habitat for native plants and animals.
	<i>Recognize</i> your role in helping to keep pollutants from entering our waterways.	Learn that human activity including sedimentation, pollution, climate change, deforestation, landscape changes, and urban growth pose serious threats to water resources.
	<i>Knowledge</i> of specific techniques for use in the home landscape which can help improve water quality in your watershed.	1. Able to apply fertilizer at recommended rates and times. 2. Can perform pest/disease ID. 3. Can reduce or avoid pesticides when possible. 4. Able to read and follow pesticide labels. 5. Prevent soil erosion.

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:

	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Improved understanding of the importance of clean water on the health and well-being of people, local wildlife and natural ecosystems.
- B) Increased awareness of individual role in helping to keep pollutants from entering waterways.

- C) Can use specific techniques which can help increase water quality in my watershed. (Choose one or more.)
- a. Can determine fertilizer application rates and timing.
 - b. Can perform pest/disease identification before attempting to treat.
 - c. Can identify options for decreasing pesticide use.
 - d. Able to read and understand pesticide labels.
 - e. Can reduce erosion through proper planting and maintenance of landscape.

Intersection Between Horticulture and Priority.



Clean water is vital to our health, communities and economy. We need clean water upstream to have healthy communities downstream. About 117 million American –one in three people- get drinking water from streams that were vulnerable to pollution before the Clean Water Rule. (Clean Water Rule: **Error! Hyperlink reference not valid.**) How we care for plants and manage soil in our home garden/landscape can have an impact water quality. Excess pesticides and fertilizers can run off or percolate through soil, ultimately ending up in surface and ground water. Compacted soil reduces water-holding capacity, allowing it to run-off. Organic matter left on or incorporated into the soil can help absorb and hold water. Loose soil can be blown or carried off and can flow into streams, rivers and lakes.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Weed management in the home garden, Cover crops in the home garden, Growing a green lawn, Soil care.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Water Conservation

Program Priority including a short explanatory statement.



Program Priority Water conservation: The Master Gardener Volunteer Program promotes water-wise gardening and landscaping practices to conserve water.

Learning Outcomes examples.



Learning Outcomes – Broad	Learning Outcomes - Specific
<i>Understand</i> the importance of water conservation and how it benefits people, agriculture, and the environment	Improved understanding of water as a finite resource. Can identify locally relevant watershed info: "Where does our water come from?" "Where does it go?"
<i>Recognize</i> your role in water conservation and how you can adopt and personally benefit from conservation practices.	Increased awareness of the impact of individual landscapes on water availability, and what can be done to help. Can identify general principles of water conservation in the individual landscape.
<i>Knowledge</i> of specific techniques for reducing excess water use in home landscape.	Can use the one or more of the following techniques to reduce water use in landscape: 1. Design landscape adapted to local conditions 2. Support soil health with sustainable practices 3. Select plants adapted to landscape conditions/group plants by water needs 4. Reduce areas of turf to appropriate size for homeowner needs 5. Mulch appropriately 6. Maximize irrigation efficiency and irrigate only if necessary, favoring less frequent but deeper watering;

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Improved understanding of the importance of water conservation and how it benefits people, agriculture, and the environment.
- B) Increased awareness of an individual's role in water conservation and how they can adopt and personally benefit from conservation practices.
- C) Can use specific techniques to reduce excess water use in home landscape. (Choose one or more.)
 - a. Design landscape adapted to local conditions.
 - b. Can use sustainable practices to support soil health.
 - c. Able to select plants adapted to landscape conditions/group plants by water needs.
 - d. Can reduce areas of turf to appropriate size for homeowner needs.
 - e. Able to mulch appropriately.
 - f. Irrigate only if necessary and with infrequent, deep watering
 - g. Can maximize irrigation efficiency with targeted irrigation.

Intersection Between Horticulture and Priority.



Water is a limited resource and should be used appropriately. Clean water, especially water that is usable by humans for consumption, is a non-renewable resource. It is estimated that home landscapes can triple the average homeowner's water consumption during the growing season. Using water conserving design principles coupled with efficient irrigation delivery systems all play a role in water conservation.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Drought tolerant landscaping for home garden, Drip irrigation, and/or Gardening with native plants. Drought tolerant/xeric demonstration gardens.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Wildfire Preparedness

Program Priority including a short explanatory statement.



Program Priority Wildfire Preparedness: The Master Gardener Volunteer Program teaches fire awareness landscaping principles to reduce the risk of loss due to wildfire.

Learning Outcomes examples.



Learning Outcomes – Broad	Learning Outcomes - Specific
<i>Understand</i> the issue of wildland fires in Washington state, the role of fire in the native ecosystem, and the increased danger of fire in the Wildland-Urban Interface (WUI). At the community level, know the costs and risks associated with wildfire.	Increased awareness of how fire is an inevitable part of many ecosystems and presents a clear risk to the lives and property of homeowners living in the Wildland-Urban Interface (WUI). Improved awareness of the principles and dynamics of wildland fire behavior. Can identify the risks and costs of fire to the local community.
<i>Recognize</i> hazards of wildfire at the individual level. Know the different types of ignition that can damage homes; what is meant by 'defensible space' and the different zones of defense.	Improved recognition of community-level decisions around fire risk and prevention (home development in WUI, fire fighter safety and decision making). Can understand individual role in fire risk and prevention in home/community landscapes.
<i>Knowledge</i> to create an emergency plan of what to do in case of wildfire. Develop and execute a medium to long-term plan for managing wildfire risk to property. Communicate with neighbors to develop a cooperative plan and improve fire safety community wide.	Can use the following specific techniques to reduce risk of fire damage: 1. Develop landscape plan, incorporating fire-risk assessment. 2. Create fire-defensible landscape with knowledge of a) ignition risk of materials and b) different zones of risk/defense.

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Increased awareness of wildland fires in Washington state, including. (Choose one or more.)
 - a. The role of fire in the local/native ecosystem.
 - b. The increased danger of fire in the Wildland-Urban Interface (WUI).
 - c. The costs and risks associated with wildfire to the local community.
- B) Can comprehend the hazards of wildfire at the individual level. (Choose one or more.)
 - a. Can identify 'defensible space' and the different zones of fire defense.
 - b. Able to identify the different types of fire ignition that can damage homes.
- C) Can use specific techniques in defense against wildland fire. (Choose one or more.)
 - a. Can create an emergency plan of what to do in case of wildfire.
 - b. Can develop landscape plan, incorporating fire risk.
 - c. Can create fire-defensible landscape with knowledge of ignition risk of materials and different zones of risk/defense.

Intersection Between Horticulture and Priority.



Each year, wildland fires destroy homes and property in the wildland-urban interface – defined as areas where homes are built near or among lands prone to wildland fire. Studies show that as many as 80 percent of homes lost to wildland fire may have been saved if brush around the homes were cleared and defensible space created around structures.

Proper planning landscape practices can reduce the risk of wildland fire damaging or destroying property.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Wildland fire preparedness class. Distribution of "Fire Resistant Plants for Home Landscapes" publication. Outreach targeting homeowners in WUI about fire defensible landscapes. Referrals to fire risk assessments and WA DNR homeowner assistance where available.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Local Food

Program Priority including a short explanatory statement.



Program Priority Local Food: The Master Gardener Volunteer Program promotes the use of sustainable techniques for growing local food to improve individual and community health and wellness.

Learning Outcomes examples.



	Learning Outcomes – Broad	Learning Outcomes - Specific
	<i>Understand</i> the connection between local food and individual and community health and wellness.	Increased awareness of costs associated with eating food that travels long distance with regard to carbon pollution and human health.
	<i>Recognize</i> your opportunity to increase food security in your community.	Increased understanding of the array of foods that can be grown in a home garden or even balcony containers.
	<i>Knowledge</i> of specific sustainable techniques for successful production of local food.	Can perform the following techniques: 1. Can select/grow annual and/or perennial vegetables your family likes to eat. 2. Can select/grow fruit varieties appropriate to area. 3. Can grow plant types and varieties suited to individual gardening space

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Increased understanding of the connection between local food and individual and community health and wellness.
- B) Improved awareness of the opportunity to increase food security in my community.
- C) Can perform the following techniques for successful production of local food. (Choose one or more.)
 - a. Can select/grow annual and/or perennial vegetables your family likes to eat.

- b. Can select/grow appropriate fruit varieties for local area.
- c. Can grow plant types and varieties suited to individual gardening space.

Intersection Between Horticulture and Priority.



13.8 million American households were food insecure in 2020, meaning at some time during the year, the household was unable to acquire enough food to meet the needs of all members because of insufficient money or other resources for food (ERS-USDA). Local food production reduces the economic and environmental impact of growing, processing, packaging and transporting food. People who have direct access to local food through farmers markets, community gardens or by growing their own eat more fresh fruits and vegetables than people who do not. People in these communities have healthy BMI's and are at less risk for diabetes. Community, home and school gardens can help bring people closer to their food and to their neighbors. This coming together of people raises awareness around food insecurity and empowers communities to make informed decisions about how to ensure their families, friends and neighbors have consistent access to healthy foods. [NC State Extension](#) article by J. Dara Bloom.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Blueberry pruning workshop. Container gardening workshop. Raised bed gardening workshop. Vegetable gardening workshop. Fruit tree talk. Tomato talk. Fruit tree pruning workshop. Tomato grafting workshop. Fruit tree grafting workshop. Soil testing workshop. Organic gardening workshop. Farm visits/tours. Hops for home brewing workshop. Permaculture workshop. Gardening in your hell strip workshop. Vegetable workshops. Tomato pruning workshop. Growing attractive edibles workshop.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Pollinators

Program Priority including a short explanatory statement.



Program Priority Pollinators: The Master Gardener Volunteer Program teaches ways to help native bees and other pollinators thrive in home and community landscapes.

Learning Outcomes examples.



Learning Outcomes – Broad	Learning Outcomes - Specific
<i>Understand</i> the critical role of pollinators in natural ecosystems as well as food production; awareness of pollinator diversity and different plant-animal relationships.	Increased awareness of reliance on pollinators for one-third of the foods we consume. Can understand the importance of pollinator diversity with regard to resilience. Improved comprehension of the ways that humans negatively impact pollinators.
<i>Recognize</i> your role in the decline of native pollinators as well as opportunities to help conservation efforts.	Increased awareness of human activities that have a dramatic impact on the ecosystems of the earth, which directly affects many pollinator species. These include pesticide use, habitat destruction, air and light pollution, introduction of invasive species and activities that contribute to climate change.
<i>Knowledge</i> of specific strategies for pollinator conservation, including reduced use of pesticide or reducing pesticide impact on pollinators through product selection and timing. Knowledge of pollinator habitat and pollinator-friendly plant species	Can perform specific strategies to promote pollinator conservation 1. Can provide habitat for local pollinators. 2. Can choose alternatives to chemical pesticides. 3. Can replace lawn with pollinator-friendly landscaping.

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Improved understanding of critical role of pollinators in natural ecosystems as well as food production;
- B) Improved awareness of pollinator diversity and different plant-animal relationships.
- C) Increased understanding of individual role in the decline of native pollinator as well as opportunities to help conservation efforts.
- D) Can perform specific strategies for pollinator conservation, including reduced use of pesticide or reducing pesticide impact on pollinators through product selection and timing. (Choose one or more.)
 - a. Can provide the habitat needed by local pollinators.
 - b. Can choose alternatives to chemical pesticides.
 - c. Can replace lawn with pollinator-friendly landscaping.
 - d. Can select pollinator-friendly plant species.

Intersection Between Horticulture and Priority.



Pollination is an essential ecological survival function. Almost 80% of food producing plants require pollination by animals like bees. One of every 4 bites of food we eat requires a pollinator. Declines in insect pollinators worldwide present a challenge for food security.

It's not just food that we need pollinators for- Pollination is also required for reproduction of flowering plants that help prevent erosion, filter water, sequester carbon, and add oxygen to the atmosphere. 90% of wild plants are pollinated by bees and according to the Center for Biological Diversity, more than half of the native bee species are declining, nearly 1 in 4 is imperiled and 40% of insect pollinators are highly threatened.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Pollinator protection workshop. Include pollinator protection in pesticide safety and IPM trainings. Pollinator friendly demo garden. Pollinator-friendly, non-invasive plants at plant sale. Pollinator flash mob. Support Pollinator Week proclamation at County Council.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Climate Change

Program Priority including a short explanatory statement.



Program Priority Climate Change: The Master Gardener Volunteer Program teaches ways to create resilient landscapes that are adapted to our changing climate.

Learning Outcomes examples.

	Learning Outcomes – Broad	Learning Outcomes - Specific
	<i>Understand</i> the importance of the impacts of climate change as it relates to the health and well-being of people, local wildlife and the ecosystems which sustain us.	Increased awareness of research-based information around climate change and the impacts, and potential impacts on people and the environment.
	<i>Recognize</i> your role in helping to offset carbon and other types of pollution.	Increased recognition of how human activities can impact the environment. Improved awareness of sustainable landscape practices.
	<i>Knowledge</i> of specific techniques which can help reduce their carbon footprint.	Can perform any/all the following techniques: 1. Can garden organically. 2. Can use IPM, reading & following pesticide label directions. 3. Can compost at home to reduce solid waste. 4. Can select plants adapted to local conditions. 5. Can recognize invasive species. 6. Can conserve soil/build soil health with appropriate mulch/amendments. 7. Can design or maintenance to increase resiliency: a. Can select/plant to reduce home energy use. b. Can design and select plants to support local ecology. c. Can select plants to increase biodiversity and/or reduce impact of pests.

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Can understand impacts of climate change as it relates to the health and well-being of people, local wildlife and the ecosystems which sustain us.
- B) Improved awareness of how individuals adopting sustainable landscape practices can be part of community-wide climate change mitigation.
- C) Can perform specific techniques which can help reduce carbon footprint. (Choose one or more.)
 - a. Can garden organically to reduce chemical inputs.
 - b. Can use IPM techniques, applying pesticides only when necessary, and reading & following pesticide label directions
 - c. Can compost at home to reduce yard (solid) waste.
 - d. Can select plants adapted to local conditions to reducing need for chemical inputs and irrigation.
 - e. Can recognize invasive species.
 - f. Can find resources to assist managing invasive species.
 - g. Can conserve soil and improve soil health by amending/mulching appropriately.
 - h. Can improve landscape resiliency with proper:
 - a. Tree/shrub selection and planting to reduce home energy use.
 - b. Landscape design and plant selection to support local ecology.
 - c. Plant selection to increase biodiversity and reduce impact of pests.

Intersection Between Horticulture and Priority.



Warmer winters, hotter summers, flooding and droughts affect plant growth and impact the many organisms that interact with plants (insects, pollinators, diseases and microbes).

Home gardeners have an important role to play in combating climate change. Choosing human-powered tools like push mowers, rakes and hand clippers over gas-powered tools such as lawn mowers and leaf blowers can reduce greenhouse gas emissions. Choosing resilient plants that are well adapted to your soil and climate and using research-based horticulture practices to manage soil will help keep your landscape resilient. Composting on-site closes the loop on waste and yields valuable nutrients and helps to reduce methane emissions from landfills.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Tree planting and protection workshop. Cover crops workshop. Soil care workshop. Composting workshop. Organic gardening workshop. Right plant, Right place outreach.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Plant Biodiversity

Program Priority including a short explanatory statement.



Program Priority Plant Biodiversity: The Master Gardener Volunteer Program promotes stewardship of diverse ecosystems through invasive species management, native species conservation and restoration in landscapes.

Learning Outcomes examples.



Learning Outcomes – Broad	Learning Outcomes - Specific
<i>Understand</i> the importance of plant biodiversity as it relates to the survival and availability of the plants upon which people and wildlife depend.	Increased awareness of the connection between diversity and resilience. Improved understanding of how invasive species can impact native ecosystems, agriculture, and other systems.
<i>Recognize</i> your role in helping to protect plant biodiversity.	Increased awareness of how human activity impacts species biodiversity through habitat destruction, degradation and fragmentation as well as through pollution and introduction of invasive species.
<i>Knowledge</i> of specific techniques for use in their home landscape, on school property, or elsewhere in the places they live, work and play which can help protect plant biodiversity.	1. Can recognize invasive plants and animals in your area. 2. Can identify native plants. 3. Can select and care for native plants in the home landscape. 4. Practice "Right plant - right place."

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Increased awareness of plant biodiversity as it relates to the survival and availability of the plants upon which people and wildlife depend.
- B) Increased awareness of how home landscapes impact native ecosystems.
- C) Can maintain home landscape to reduce spread of invasive species.
- D) Able to perform specific techniques to help protect plant biodiversity. (Choose one or more.)
 - a. Can recognize invasive plants and animals in local area.
 - b. Can identify native plants.
 - c. Can select and care for native plants in the home landscape.
 - d. Practice "Right plant - right place." (Plant selection based on site conditions.)

Intersection Between Horticulture and Priority.



The Earth's biodiversity, the variation of life at all levels, is decreasing. Animal and plant species are going extinct much faster than the natural rate. Biological diversity serves as insurance against declines in ecosystem functioning. Awareness and understanding of local environmental issues inspires action to protect native and imperiled or at-risk plant and animal species. Practices such as lawn reduction, invasive plant management and use of native plants, support biological diversity from the backyard to the bioregion and beyond.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Native plant workshop. Weed management workshop. Seed saving workshop. Plant propagation workshop. Gardening for Wildlife workshop. Seed swap events. Native pollinator workshop. Habitat certification programs. Garden tours. Native plants at plant sales. Lists of local native plants.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Soil Health

Program Priority including a short explanatory statement.



Program Priority Soil Health. The Master Gardener Volunteer Program encourages the building of healthy soils to prevent depletion and ensure the long-term viability of local food security and natural resources.

Learning Outcomes examples.



Learning Outcomes – Broad	Learning Outcomes - Specific
<i>Understand</i> the importance of soil in natural ecosystems and the built environment. Recognize that it is a resource that should not only be protected, but also renewed.	Increased understanding of the role of soil and ecosystem services (habitat, growth medium, water filtration, etc.) it provides. Increased awareness of threats to soil, and the need for conservation (pollution, erosion, overuse etc.).
<i>Recognize</i> your role in soil stewardship and conservation. Awareness of human impact on soils.	Can recognize basic soil properties including physical, chemical, & biological, and their impact on the home landscape 2. Increased understanding of the role of the home gardener in building soil health.
<i>Knowledge</i> of specific techniques for preserving soil and improving soil health in the home landscape.	Can build and support soil health including: 1. Can design and maintain landscape to prevent erosion. 2. Can fertilize prescriptively after soil testing. 3. Can mulching & amend soil appropriately. 4. Can build/maintain a home compost pile. 5. Can garden using no-till practices. 6. Can select plants appropriate for soil conditions.

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- A) Increased understanding of soil's importance in natural ecosystems and the built environment.
- B) Increased recognition that soil is a resource that should not only be protected, but also renewed.

- C) Increased awareness of human impact on soils.
- D) Increased understanding of the impact of home landscape practices on soils
- E) Ability to perform specific techniques to preserve soil and to improve soil health. (Choose one or more.)
 - a. Can apply fertilizer based on soil tests.
 - b. Can garden using no-till techniques.
 - c. Can compost at home to reduce yard (solid) waste
 - d. Can mulch appropriately with organic material

Intersection Between Horticulture and Priority.



Soil contains living organisms that when cared for provide the basic necessities of life – food, shelter, water. Healthy soils provide ecosystem services critical for life. It acts as a water filter and a growing medium; provides habitat for billions of organisms, contributes to biodiversity; and supplies antibiotics. Humans use soil as a holding facility for solid waste, filter for wastewater, and foundation for cities and towns. Soil is the basis of agroecosystems which grow feed, fiber, food and fuel. Increasing deforestation, soil compaction, and erosion factor into soil health degradation.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Master Gardener training on soils. Home composting workshop. Composting demonstration. Soil testing fact sheets. Munsell soil chart as a clinic resource.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Nearby Nature

Program Priority including a short explanatory statement.



Program Priority Nearby Nature. The Master Gardener Volunteer Program seeks to increase access to plants, green spaces and public landscapes to benefit the health and well-being of all.

Learning Outcomes examples.



	Learning Outcomes – Broad	Learning Outcomes - Specific
	<i>Understand</i> the benefits of interacting with the natural world at community-wide and individual landscape levels.	Learn benefits of human interaction with nature as documented in research. Become aware of the impact lack of interaction has on underserved communities.
	<i>Recognize</i> the role of a home landscape in the local ecosystem. Recognize the role of shared green space and green infrastructure as community assets. Recognize their role in protecting those benefits.	Create landscape design and maintenance plan to support human interaction with environment by self-assessing needs/wants of homeowner.
	<i>Knowledge</i> of specific techniques to maximize benefits of nature in the home landscape through design, plant selection and maintenance.	Can select appropriate houseplants and care for them (bringing nature indoors). Learn adaptive gardening techniques to compensate for different abilities. Connect youth to nature (overcoming “Nature Deficit Disorder.”)

Evaluation examples.

Rate your knowledge before and after the presentation on the following statements:



	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
<i>Prior</i> to the workshop series				
<i>After</i> the workshop series				

- A) Increase understanding of the benefits of interacting with the natural world at community-wide and individual landscape levels.
- B) Increase recognition of the role of a home landscape in the local ecosystem.
- C) Increased recognition of the role of shared green space and green infrastructure as community assets.
- D) Increased recognition of role of individuals in protecting those benefits.

- E) Ability to perform the following techniques: (Choose one or more.)
- Can select appropriate houseplants for location
 - Can provide proper care of houseplants.
 - Can modify gardening techniques for gardeners with physical limitations.
 - Can select or modify tools appropriate for gardeners with physical limitations

Intersection Between Horticulture and Priority.



More than 80% of the U.S. population, and more than 50% of all people in the world live in urbanized areas. Nature in cities and towns including parks, gardens, trees, small landscapes, and natural areas, provides measurable benefits. These include improved air and water quality, energy savings, and reduced urban heat island effects. Research further indicates exposure to nature has a positive impact on human physical and mental health as well as quality of life. Given the high population densities of urban areas, nearby nature has the potential to benefit hundreds to thousands of people daily. Nature in urban areas also provides a “green infrastructure” that can be planned and integrated with built systems to create more sustainable urban environments.

Examples/Projects/Activities.



Workshops, articles or other outreach might include the following: Adaptive Gardening/Gardening for Life workshops. Tree selection guides. Plant care info booths. Backyard Wildlife Sanctuary classes. Tree walks. Garden tours. Houseplant classes.

Tools of the trade. Lesson plan template, PowerPoint template, icon, poster. (See Appendices.)

Appendix A: Sample Lesson Plan

Lesson Title and Summary

Pruning Tomatoes Workshop

Learning Goals/Objectives (measurable outcomes)

- Increase understanding of the connection between local food and individual and community health and wellness.
- Increased recognition of their opportunity to increase food security in their communities.
- Ability to perform the following specific techniques: **this is where volunteers should add specific skills they want students to know how to do.**
 - Able to select proper tomato variety to meet needs.
 - Can prune tomatoes for increased yields
 - Can use correct tools and supplies incorporating proper sanitation
 - Can trellis and cage tomato plants for increased yields.
 - Can graft tomatoes for improved yield.

Target Grade(s)/Age(s) and Adaptation for other Grades/Ages

Adults

Lesson Time

1.5 hours

Preparation, Space Requirements, Personnel needed, Supply List

- Posters on pruning tomato plants
- Poster on staking tomato plants
- Organic field with tomatoes that need pruning
- Trellis configuration in Organic field
- Various tomato cages for demonstration
- A few grafted tomatoes for demonstration
- Hand pruners
- Latex gloves for anyone who wants them
- Buckets for collecting prunings

Lesson Plan

Intro (at main building): (5 minutes)

Introduce team and explain the activity; go through local food priority and its importance to community and individual health and wellness, explain the role that everyone can play in helping to secure the food chain, and go through the specific topics that students will learn to grow healthy, productive tomatoes.

Tomato Pruning Overview (at main building): (10 minutes)

- Determinate vs. Indeterminate and Variety Selection-short season, disease resistant, hybrid vs. heirloom, beef steak, paste, cherry, fruit size

- Why it is good to prune
- What happens if you don't prune
- Overview of staking, caging, trellising

Divide into groups of 8 to 10: (5 minutes)

Travel to Organic Field

Lesson Steps and Activities (in field in small groups): (1+ hour)

- Point out what a sucker looks like and where it forms.
- Point out first flower cluster and show which suckers can be left (one to two above first flower cluster).
- Demonstrate how to remove sucker (snap small ones off with fingers, use clippers for bigger ones).
- Talk about frequency of pruning (almost weekly in early season).
- Demonstrate low branches and how they should be removed or cut back from touching ground.
- Mention topping a tomato plant and when it may be good to do that (late in the season).
- Talk about sanitation if a plant looks diseased (and that plant should probably be removed if no improvement in short term).
- Show trellis method in field and discuss other staking methods (use personal experience if applicable).
- Ample time for students to practice on plants with supervision.
- Be prepared to answer questions on general tomato plant care (water, fertilizer, disease, pests, etc.)
- Field questions that arise.

Vocabulary

Determinate tomato	
Indeterminate tomato	
Semi-indeterminate tomato	
Sucker	
Flower Cluster	

Evaluation

Rate your knowledge before and after the presentation on the following statements:

	Not at all knowledgeable	Somewhat knowledgeable	Knowledgeable	Very knowledgeable
Prior to the workshop series				
After the workshop series				

- How knowledgeable are/were you about the connection between local food and individual and community health and wellness before coming to class and after coming to class?
- How knowledgeable are/were you about the opportunities we all have to increase food security in our communities before and after coming to class?
- Specific techniques for successful production of tomatoes. Evaluate knowledge gained on the specific learning objectives using the same retrospective pre and post survey.
 - Able to select proper tomato variety to meet needs.
 - Can prune tomatoes for increased yields
 - Can use correct tools and supplies incorporating proper sanitation
 - Can trellis and cage tomato plants for increased yields.
 - Can graft tomatoes for improved yield.

Appendix B: Sample PPT Presentation

The slide features the WSU Extension Master Gardener Program logo at the top left. The main title "WSU Master Gardener Program" is in a large, bold, red serif font, with the subtitle "Cultivating Plants, People & Communities Since 1973" in a smaller, white serif font below it. A large central graphic shows a map of Washington state with the title "Program Priorities" overlaid. Surrounding the map are nine circular icons, each representing a priority area: Wildfire Preparedness, Water Conservation, Nearby Nature, Pollinators, Clean Water, Climate Change, Plant Biodiversity, Soil Health, and Local Food. Each icon has a brief description and a small illustration.

The program seeks to address, by providing un-biased research-based education, 9 issues that face Washington residents. These program priorities describe what we do and why we do it. They help connect the dots from the horticulture skills being learned in the classroom to the natural resources we are trained to protect.

The slide has a vertical navigation bar on the left with six numbered items. The main content area has a red vertical bar on the left. The title "Local Food" is in a large, bold, black serif font. To the right of the title is a circular logo with a stylized plant and the words "LOCAL FOOD". Below the title is a paragraph of text. To the right is a bulleted list of four items. To the right of the list is a photograph of a person's hands wearing green gloves holding a wooden crate filled with various fresh vegetables like tomatoes, cucumbers, and leafy greens.

- Benefits of local food on individual and community wellness
- We all have a role to play
- Techniques for growing fruits and vegetables

 13.8 million American households were food insecure in 2020, meaning at some time during the year, the household was unable to acquire enough food to meet the needs of all members because of insufficient money or other resources for food (ERS-USDA). Local food production reduces the economic and environmental impact of growing, processing, packaging and transporting food. People

who have direct access to local food through farmers markets, community gardens or by growing their own eat more fresh fruits and vegetables than people who do not. People in these communities have healthy BMI's and are at less risk for diabetes. Community, home and school gardens can help bring people closer to their food and to their neighbors. This coming together of people raises awareness around food insecurity and empowers communities to make informed decisions about how to ensure their families, friends and neighbors have consistent access to healthy foods. [NC State Extension](#) article by J. Dara Bloom.

Today's talk on Pruning Tomatoes will give you a better understanding of the benefits of local food, help you recognize that we all have a role to play in supporting a healthy food chain and will give you specific techniques that you can implement in your own lives to grow healthy fruits and vegetables.