# Growing Food on Parking Strips and in Front Yard Gardens

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS115E

## Introduction

Parking strip and front yard vegetable gardens are increasingly popular in urban neighborhoods in Washington State. These locations may be the sunniest spots in the yard, and they offer an opportunity to expand garden space on small lots. These gardens not only provide fresh produce, but they can also be a source of neighborhood pride, bringing beauty to an urban streetscape and introducing neighbors to gardening and home-grown food.

When planting a parking strip or front yard garden, you need to assess the site and investigate any local ordinances that may affect it. You will also need to determine soil quality and environmental impacts, particularly on water quality, as well as safety concerns, such as food and traffic safety (Figure 1).

## Assessing Your Site

Assess your parking strip or front yard for sun exposure and summer heat, as well as drainage and space availability. Vegetable gardens need at least half a day of sunlight, with full sun preferred. Consider summer heat as well. Heat absorbed by nearby roads and sidewalks can benefit many garden crops in areas that experience mild summers, such as the Puget Sound region. In areas with hot summers, such as the Yakima Valley, the additional heat can be harmful to plant growth.

Poorly drained soils become wet and mushy during the rainy season in Washington State, but you can still garden in wet soils. However, you will have to wait until later in the spring to begin working with this soil. (An alternative is to build **raised beds**.)

It is also important to assess your parking strip for adequate space. Narrow strips may not have enough space to grow a garden without having plants encroach on sidewalks or the street. You need to ensure that your garden plants do not obstruct any view of traffic. Some municipalities may have regulations regarding the type of plantings that can be grown in parking strips, so it is wise to check these local regulations before starting a parking strip garden.

*Figure 1. Parking strip gardens can produce abundant yields of fresh food. However, taller crops are not suitable for planting near driveways or intersections if they will obstruct the view of traffic.*

## Evaluating Your Soil

Soil quality in parking strips and urban front yards varies widely and depends on the type of native (original) soil that is present, as well as how much the soil has been disturbed. Disturbances, such as past excavation, cutting, filling, shaping, and construction, alter the native soil. Your soil may contain very little organic matter and may vary in **texture**, depth, and **soil compaction** within short distances.

You can assess the quality and variability of the soil in your parking strip or front yard by digging several small holes and noting the soil's texture, **structure**, and compaction. Coarse-textured soils contain mostly sand. They drain water readily if not too compacted, but these soils do not hold much water in the dry season. Fine-textured soils contain mostly silt and clay. These soils drain water more slowly, so they are slow to dry out in the spring, but retain

more water in the summer. Loamy soils have a mixture of coarse and fine particles and maintain a more even balance between drainage and water-holding capacity. You can evaluate the texture of your soil by feel (Figure 2). To learn how to evaluate soil texture, it may be helpful to view the short WSU video, *Determining Soil Texture by Hand* (Cogger 2010a), and then try the technique yourself.

***Figure 2. Determining soil texture by feel. For example, the pictured soil sample holds its shape after being pressed, indicating a high clay content. Photo by Andy Bary.***

Soil structure is defined as the aggregation of individual sand, silt, and clay particles into larger units in the soil (Figure 3). Soils with established turfgrass often have a granular structure in the surface soil, which promotes the movement of water and air into and through the **root zone**. Compacted soils have little or no structure, and they restrict movement of water and air, as well as root growth.

To sample your soil, dig to a depth of 12 inches, and note the changes in texture, structure, and compaction at various depths. The best time to assess your soil is when it is moist and relatively easy to dig. Abrupt changes in soil texture (that is, the presence of layers) will slow water movement, and compaction may restrict rooting depth. Do not confuse rocks with compaction. If your soil contains rocks, continue to dig, and you may find that the soil is still loose once you get past the rocks. If your soil is too compacted to dig, you may need to look for another location for a garden or build raised beds. For soils that are less severely compacted, incorporating organic **soil amendments** may be useful. For more information on the physical properties of soil in home gardens, see *Home Gardener's Guide to Soils and Fertilizers* (Cogger 2014).

***Figure 3. Granular structure (left) typical of native soil under turfgrass. Photo by Andy Bary.***

Test your soil for nutrients and **soil pH** when you are starting a new garden. Nutrient levels can vary, depending on past soil management. If your site contains well fertilized turf, the level of nutrients may be high. These nutrient levels are usually low in soils that have received little or no fertilizer or organic amendments. If you live in arid parts of the state, such as areas east of the Cascades, test your soil for salts as well. Road salts can create a problem in parking strips in these arid areas if there is not enough rainfall or snowmelt **leaching** them out of the soil.

To sample your soil for nutrients and pH, collect 6 to 10 cores from across an area of your parking strip or front yard. Sample to a depth of 6 to 12 inches, and remove any thatch, **mulch**, and rocks from the cores. Combine the cores in a bucket, mix them well, let them air-dry, and then send a sample to a soil-testing laboratory. Check with your local Extension office for a list of labs that test garden soils, and find out what their procedures are for sending samples. You can also view the short WSU video, *How to Take a Soil Sample* (Cogger 2010b), on soil sampling in gardens. For guidance on interpreting soil tests and managing pH and salts, refer to *Home Gardener's Guide to Soils and Fertilizers* (Cogger 2014).

## Investigating Contaminants

Some urban soils may be contaminated by industrial pollutants, certain types of pesticides, or vehicle emissions. For example, in the past, smelters in Tacoma and Everett deposited a plume of arsenic and lead in soils downwind from the smelter stacks. Soils on old orchard sites may also be contaminated from past use of lead- and arsenic-containing pesticides. If you are in an area of known or suspected contamination, contact your local health department to obtain pertinent information. In some areas where contamination is suspected, you may be able to get a no-cost soil test for lead and arsenic. If your soil is contaminated, you may still be able to garden by using raised beds tall enough to avoid disturbing the underlying soil. Testing soil for contaminants is costly and is seldom helpful without knowing the history of the particular area.

Lead from past vehicle emissions could also affect parking strip soils in older urban neighborhoods. A 2012 survey of parking strips on residential streets in central Tacoma neighborhoods showed a small increase in lead but not enough to negatively affect gardening (Cogger unpublished data). This survey also showed that lead levels in parking strips were much lower than lead levels around home foundations in the same neighborhoods (where soil was contaminated by peeling and chipping lead paint).

## Amending Soil in Parking Strip and Front Yard Gardens

Most urban soils will benefit from the incorporation of organic soil amendments, which improve a soil's physical properties and nutrient supply. **Biosolids** products or **compost** made from yard debris and food waste are soil amendments often recycled from local urban sources, for example, restaurants, grocery stores, and commercial and residential yards. When you amend new garden soil, add 1 to 3 inches of a suitable amendment to the native soil to derive immediate benefit from the organic matter. Add smaller amounts of amendment (1/2 inch or less per year) to established gardens to maintain organic matter levels. **Cover crops** can also be used to maintain organic matter in established gardens. However, do not apply nutrient-rich **organic fertilizers**, such as poultry manure or dried biosolids products as soil builders because you will create nutrient overload. Use organic fertilizers at low rates, basing the rates on soil-test recommendations. For more information on organic amendments, their suitability as soil builders, and their application rates, see *Soil Fertility in Organic Systems: A Guide for Gardeners and Small Acreage Farmers* (Collins et al. 2013).

## Protecting Water Quality

Parking strip and front yard gardens are often located near paved surfaces and storm drains. This increases the risk of nutrient, pesticide, or organic matter runoff into surface water, where they become water contaminants. For example, many soil amendments are rich in phosphorus, but phosphorus will accumulate in the soil with repeated applications. Excess phosphorus runoff can cause **eutrophication** of surface water. The risk of water contamination is highest when bare soil is present. It is critical to be aware of the potential for water runoff and soil erosion in your garden space, so you can manage these conditions to protect water quality.

Framed raised beds keep soil and amendments in place, which reduces water runoff and soil erosion (Figures 4 and 5). Raised beds can fit on narrow planting strips, and they also allow gardening in shallow, rocky, compacted, or contaminated soil. For more information, see *Raised Beds: Deciding if They Benefit Your Vegetable Garden* (Cogger 2017). Raised beds can be expensive, and simpler options, such as raised borders and mulches are also effective in protecting water quality.

Raised borders constructed of such materials as wood, plastic, or blocks can define the garden space and keep native soil and amendments in place. These borders are most effective when combined with grass or mulch buffers (Figure 5).

Grass and mulch buffers provide an undisturbed area around the perimeter of the garden space to capture soil and water runoff (Figure 6). These buffers are most suitable for wide parking strips or front yards that have enough room for both garden space and buffers.

Cover crops and winter mulches cover bare soil during the winter rainy season, when the risk of water runoff is greatest.

*Figure 4. Raised beds with stone mulch create a tidy and productive garden space, and they also reduce the risk of water runoff and soil erosion.*

*Figure 5. Raised beds, cover crops, and permanent mulch buffers protect water quality. Hilltop Urban Gardens, Tacoma, WA.*

*Figure 6. Mini-raised-bed parking strip garden with trellis and grass buffer.*

*Figure 7. Winter-mulched planting area surrounded by permanent woody mulch at the Hilltop Urban Gardens, Tacoma, WA.*

Consider using cover crops and winter mulches in addition to borders or buffers to minimize the risk of water contamination (Figure 7). Mulches are also useful for conserving water and reducing dust in arid regions throughout the year.

Irrigation practices can affect water quality during the garden season. Do not irrigate to the point of water runoff, and especially keep irrigation water off streets and pavement. Well-managed, targeted irrigation, such as drip lines, soaker hoses, and judicious use of small-area sprinklers, can provide needed water to garden crops, while conserving water and preventing contaminated water runoff.

**Integrated pest management** practices can reduce or eliminate pesticide use. These practices can reduce the risk of pesticide contact, drift, and runoff in urban areas, thus protecting water quality, as well as the surrounding environment. For more information, see the WSU Hortsense website at http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx.

## Ensuring Food Safety

Feces from pets and birds can contaminate garden crops, regardless of the garden's location. Cats are a particular nuisance in urban areas because they are so numerous, and they like to use newly prepared garden beds as litter boxes. If you have problems with cats, other pets, or birds, you can keep them out of garden beds by using barriers, such as row covers, pieces of sheep fence or lattice, or chicken wire stapled to a lightweight wooden frame, until the garden crops become established. To further ensure food safety, wash fruit and vegetables well after harvesting, and do not consume produce that has come in contact with bird or pet feces.

## Selecting Plants

You can grow the same plants on parking strips and front yard gardens as those grown in a backyard garden, including annual crops, perennials, and cover crops. You can also mix ornamental plants and food crops to increase curb appeal. Or you can use your front yard or parking strip to showcase plants that are both edible and ornamental, such as blueberries and rhubarb.

Tall plants may not be suitable for locations near driveways or intersections, where they could obstruct a driver's view. Also, do not allow plants to encroach on streets and sidewalks by keeping all plant growth within the parking strip or yard. It is also useful to maintain pathways around gardens to allow access from parked cars to the sidewalk. If you plant fruit crops, make sure the fruit does not fall on the sidewalk or street and create a nuisance. Refer to *Home Vegetable Gardening in Washington* (Miles et al. 2013) for tips on gardening in confined spaces.

## Summary

Parking strip and front yard gardens can benefit your family and neighborhood as long as you work to protect surrounding water quality, maintain traffic visibility, and keep sidewalks and streets clear of soil and garden debris. Regardless of which plants you choose to grow, it is worthwhile to construct and maintain your garden, so it is an aesthetic asset for your yard and your neighborhood (Figure 8).

*Figure 8. Trellised garden with summer mulch covering bare soil in pathways at the Hilltop Urban Gardens, Tacoma, WA.*

## Glossary of Terms

***Biosolids*** are products of municipal wastewater treatment that contain nutrients, organic matter, and inorganic constituents. Class A biosolids have been treated to remove pathogens and are suitable for use in gardens and landscapes. Biosolids composts and blends are soil amendments, while dried biosolids products are used as fertilizers.

***Compost*** is a humus-like material produced by the controlled biological decomposition of organic materials, such as yard trimmings, food waste, biosolids, and manures. Compost is used as a soil amendment to increase soil organic matter and to slowly release nutrients.

***Cover crops*** are plants grown to protect soil from water runoff and soil erosion and to add organic matter to the soil. Gardeners usually plant cover crops in the fall for winter cover, and then till them into the soil in the spring, or cut them and leave them on the soil surface as mulch.

***Eutrophication*** is when bodies of water receive excess nutrients (typically phosphorus in fresh water), causing excessive algae growth and reduction in aquatic oxygen levels when these plants die and decay.

***Integrated Pest Management*** is the practice of using knowledge about pests and pest control methods to manage target pests without harming people, pets, livestock, and the environment.

***Leaching*** is the process by which water-soluble substances (such as calcium, fertilizers, and pesticides) are washed out of the soil.

***Mulch*** is woody organic material, such as straw, wood chips, and bark, that are applied to the surface of the soil to reduce weed growth, conserve moisture, reduce runoff, and protect the soil surface.

***Organic fertilizers*** are materials, such as poultry manure, fish byproducts, and feather meal that are rich in nitrogen and/or other nutrients and release a large portion of these nutrients in plant-available forms within a few weeks after application to the soil.

***Raised beds*** are for gardening in areas with little or no soil, compacted soil, or contaminated soil. They typically contain imported soil deposited in a frame constructed of wood, concrete blocks, or other building materials.

***Root zone*** is the area of the soil that can be penetrated by plant roots.

***Soil amendments*** are organic materials with lower concentrations of nutrients compared to organic fertilizers, and they release their nutrients more slowly. Soil amendments are applied at higher rates than fertilizers to increase soil organic matter. Examples of soil amendments include most types of compost, biosolids blends, and horse manure mixed with bedding material.

***Soil compaction*** is when soil particles are pressed together, reducing pore space between them. Compacted soils are often massive (that is, no structure) or have a horizontal, layered structure that restricts movement of water and growth of roots.

***Soil pH*** is a measurement of how acidic or basic a soil is. A pH of 7 is neutral, a pH less than 7 is acidic, and a pH greater than 7 is basic.

***Structure*** is the aggregation of sand, silt, and clay into larger particles. The pores between the aggregates conduct water and air, improving water movement and aeration within soils.

***Texture*** is the proportion of sand, silt, and clay in a given soil. Coarse-textured soils are rich in sand, feel gritty to the touch, and have low water-holding capacity. Fine-textured soils are rich in silt and clay, are smooth to the touch, are easily molded when moist, and have high water-holding capacity. Loamy soils contain a more balanced combination of sand, silt, and clay, and generally have good aeration and water-holding capacity.

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