



ACS Western Region Reference Garden: Portland Community College at Rock Creek and the Education Garden of the Washington County Master Gardener Association

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The Washington County Master Gardener Association (WCMGA) of Oregon maintains the Education Garden within the grounds of the Rock Creek campus of Portland Community College (PCC), located in the northwest corner of Portland. In the fall of 2022, the Education Garden and PCC Rock Creek were jointly recognized by the American Conifer Society as a Reference Garden.

PCC Rock Creek Campus

Established in 1976, the buildings of the spacious PCC Rock Creek campus sprawl among 260 acres of

ornamental gardens, working farmland, native Pacific Northwest forests, grasslands, floodplains, and wetlands, including camas lily (*Camassia quamash*) meadows. The Bird Alliance of Portland (formerly the Audubon Society) and the Oregon Depart-



Above: Master Gardeners Lisa Hansen and Elizabeth Price with David Sandrock, PCC Rock Creek faculty member. – Sue Ryburn

Top of page: ACS Reference Garden plaque installed at the Education Garden at PCC Rock Creek with a young *Cedrus libani* 'Hedgehog' (dwarf Lebanon cedar).

ment of Fish and Wildlife consider the natural areas of the campus ecologically significant. They are collaborating with PCC, other local organizations, and the community on restoration projects aimed at improving water quality, removing non-native species, and enhancing wildlife habitats.

The campus's ornamental and native plants have long served as the backbone of the college's five plant identification classes, with over 100 taxa studied each term. On any given day, rain or shine, clusters of students from the Landscape Technology program can be seen with their instructors roaming the outdoor laboratory of the campus, looking up at trees, down at shrubs, plant samples in hand. In addition to the Education Garden, David Sandrock, the evergreen plant ID faculty member, has more than 200 conifer specimens spanning 23 genera at his disposal for the course curriculum. At nearly 50 years old, the campus is also graced with many conifers of considerable age and size, allowing students to experience the majesty that decades of growth can bestow on some species and cultivars—and to witness firsthand the amount of space even specific dwarf cultivars, given enough time, can occupy in the garden.

The WCMGA Education Garden

Far more recently, in 2017, PCC Rock Creek and the WCMGA of Oregon began a partnership when PCC allocated a 17,000-square-foot lot to the Master Gardeners to develop into an ornamental garden. For many years, this one-third of an acre had been a staging area



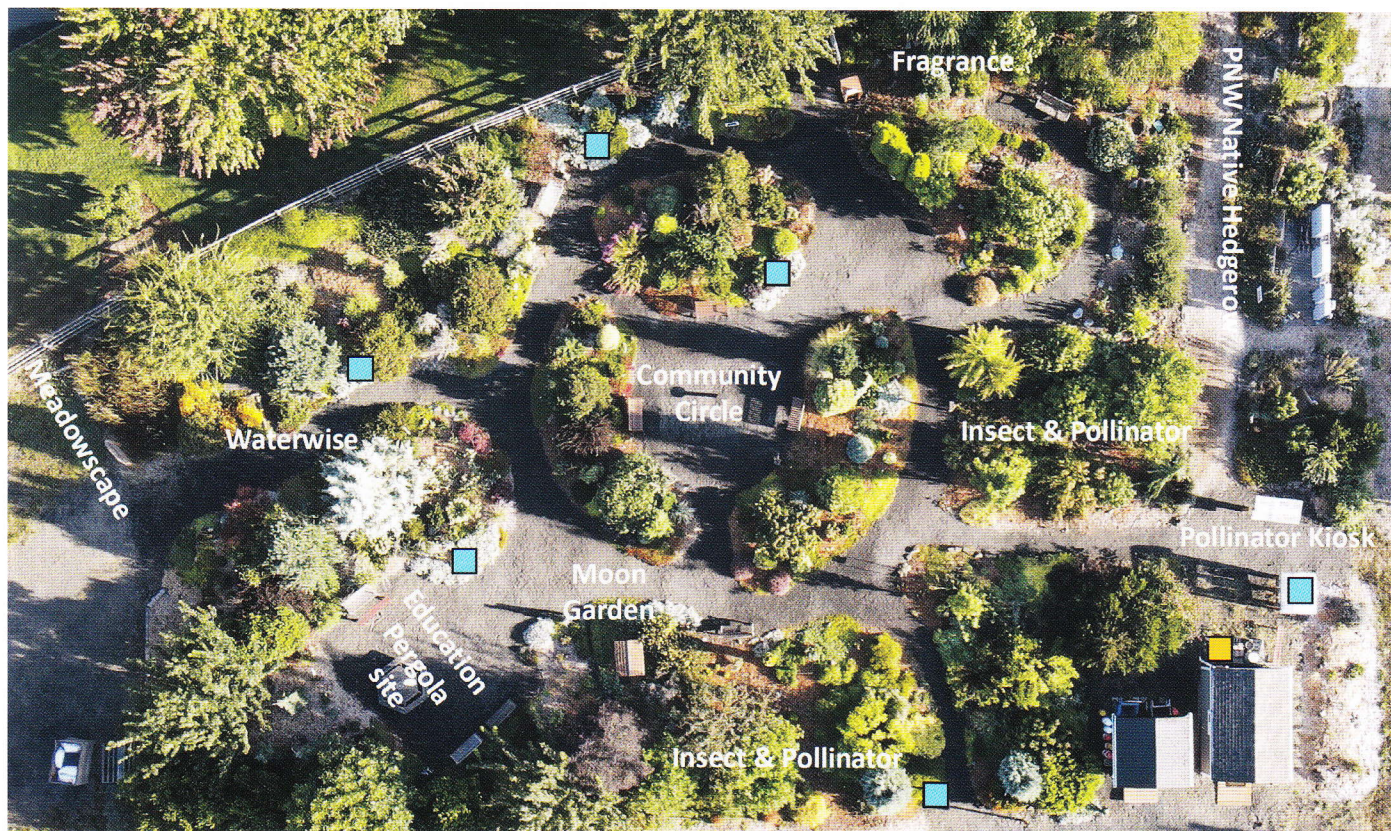
Above: Education Garden after excavation, May 2019. – uncredited drone photograph



Above: Education Garden during plant installation, September 2019. – uncredited drone photograph

for construction materials and equipment for ongoing expansion projects on campus. Countless dump trucks of gravel had been spread across the area to prevent heavy construction vehicles from sinking into the wet clay soil, and over time, the gravel had been

compressed into an impervious, pavement-like surface. The challenge to Washington County Master Gardeners: turn this seemingly irredeemable plot of land into an ornamental garden that would serve as an outdoor classroom and a place of respite for the commu-



nity, PCC students and faculty, and other Master Gardeners.

As the aerial images show, the Master Gardeners were up to the challenge! The first set of photographs, taken after site excavation (May 2019) and during plant installation (September 2019), are on the previous page, and the final image from year five (August 2024) is above. First, the site was excavated according to the design of Beth Benz, the landscape designer, with areas of the tarmac-like gravel left to serve as walking paths. Trenches were dug into the excavated planting beds to create pathways for water and roots, then 40 dump trucks of soil and 100 cubic yards of compost were added and mixed

on top. After installing 600 plants and placing dozens of rocks, Master Gardeners spread 75 cubic yards of arborist wood chips as mulch.

The sequence of images conveys the transformative power plants can have on even the most desolate-looking landscape. What was once inhospitable, bleak, and without shelter from the sun is now welcoming, uplifting, and cooled by plants, not only through the shade they provide but also through evaporative cooling. Plants use a mere five percent of the water that the roots pull from the soil; the remaining 95 percent escapes as water vapor through tiny portals in the leaves called stomata. During the growing season, a mature deciduous tree dumps upwards of 100 gallons of water per day into the air—a giant sequoia in its prime, several times that.

The Education Garden's 90 conifer specimens, together with the 200 conifers on the PCC campus, are the foundation of conifer classes offered to the community, Master Gardeners, and Master Gardener trainees. "Dwarf Conifers for the Small Garden" and "Identifying Conifers in the Pine Family to Genus" are two examples. Classes begin in a PCC classroom, with a presentation and close study of plant samples, then move outdoors for a plant walk to meet the conifers in person.

Conifers of the Joint Reference Garden

Whereas the 260-acre PCC Rock Creek campus is spacious enough for plant specimens both large and small, the one-third-of-an-acre Education Garden has the constraints and challenges, as well as the intimacy, more typical of a residential

Above: Education Garden after five years of growth, August 2024. – Jorie Helwig



Sue Ryburn and Susan Albright, Master Gardeners, standing next to *Sequoiadendron giganteum* 'Blauer Eichzwerg' (dwarf giant sequoia), before the conifer was rehomed from the Education Garden to the PCC campus.

garden. As such, dwarf and miniature conifers and flowering plants are a crucial element of the design and aesthetics. When the Education Garden's *Sequoiadendron giganteum* 'Blauer Eichzwerg' (dwarf giant sequoia) exceeded its ten-year size in two growing seasons, the PCC landscape maintenance team responded to the Education Garden's call for help. A crew came to the garden, took great care in digging up the prickly conifer, and

rehomed it to a spot on campus where the dwarf giant sequoia can now live out its days with ample room to grow as vigorously as it pleases. In another example of PCC

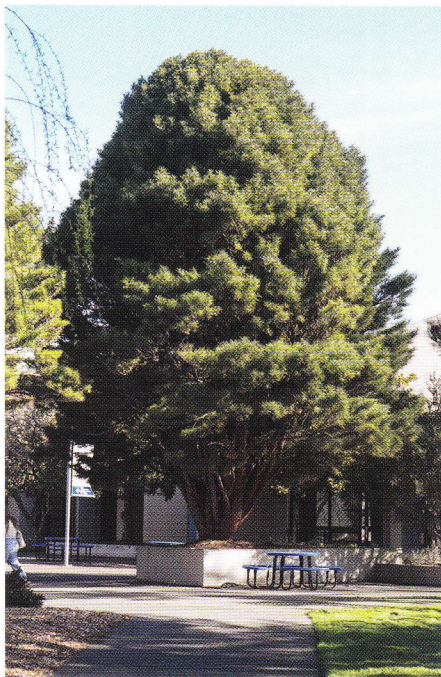
and the Education Garden working together for the greater good of conifers, during the spring term, work parties of students from the Landscape Maintenance class can be seen in the Education Garden working shoulder-to-shoulder with Master Gardeners. The instructor, Jenn Peters, builds a class period into the syllabus for students to work on pre-approved tasks that support the course curriculum. Many students continue to work with Master Gardeners throughout the term by fulfilling the course's volunteer requirement at the Education Garden.

PCC Rock Creek Campus Conifer Tour

The Rock Creek campus of PCC is a horticultural gem, with the richness and diversity of ornamental plants rivaling that of many botanical gardens. Plants are continually being added to the campus (and sometimes removed to make way for campus expansion). Some of those responsible for landscape design and plant installation in the campus's past had the foresight to grant many conifers the space

Right: *Cedrus atlantica* 'Glauca Pendula' (weeping Atlas cedar), upright dwarf *Pinus sylvestris* (Scots pine) cultivar, and trunk of *Pinus densiflora* 'Umbraculifera' (Japanese red pine).

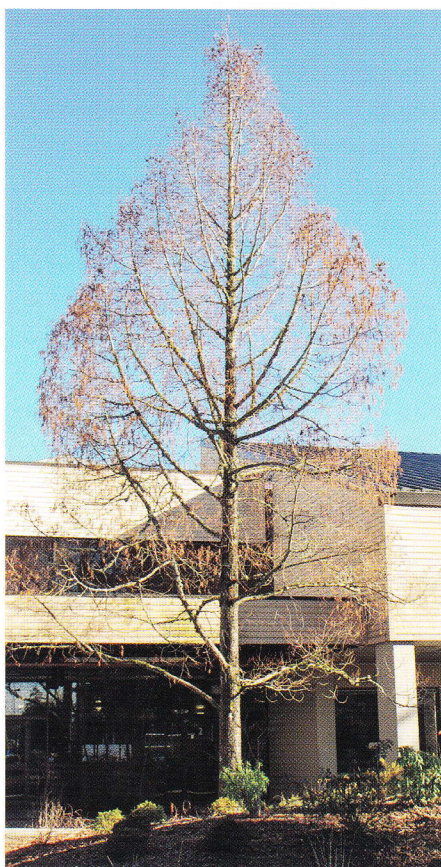




Above: One of two *Pinus densiflora* 'Umbraculifera' (Japanese red pine).



Above: A row of *Cupressus x leylandii* (Leyland cypress) with the room they need to reach their impressive mature stature.



Above: *Metasequoia glyptostroboides* (dawn redwood) in winter tinged in pink by pollen cones.

they'd require to grow to their ultimate size, in many cases into spectacular specimens.

One such conifer at the center of campus, with a trunk 25 inches in girth, is a *Cedrus atlantica* 'Glauca Pendula' (weeping Atlas cedar). Even though this true cedar cultivar was allotted a generous 40' x 15' area to spread into at planting, at this distant date, it must be contained with pruning. Two massive, sentinel-like 30' x 15' *Pinus densiflora* 'Umbraculifera' (Japanese red pine) flank the entry to this area, where a long water feature and places to sit complete the scene, encouraging those who might be passing through on the way to or from class to pause. Pausing, one would then notice a *Metasequoia glyptostroboides* (dawn redwood) that is old enough to set male and female cones, with the pollen cones evident in winter, tinge-

ing the branch ends of the dawn redwood a pinkish hue. Rising just behind the weeping Atlas cedar, one sees two upright dwarf *Pinus sylvestris* (Scots pine) cultivars that have achieved the textbook form of a small, multi-stemmed tree, limbed up to display their structure and flaky, cinnamon-red bark.

You can walk in any direction from this central area of campus and find impressive conifers. If you head west toward the red barns of the Veterinary Technology program, you'll pass a row of *Cupressus x leylandii* (Leyland cypress) that have nearly all the space they need. Sited wisely at planting, a rarity for this conifer, they demonstrate the proper use of this vigorous *Cupressus macrocarpa* (Monterey cypress)/*Cupressus nootkatensis* (Nootka cypress) hybrid as a large barrier separating two even larger spaces.



Above: *Cupressus nootkatensis* (Nootka cypress), the seed parent for the hybrid conifer, *Cupressus ×leylandii* (Leyland cypress).

Traveling east from the water feature, one passes many groupings of mature conifers before coming upon one of the two parents of Leyland cypress, a *Cupressus nootkatensis* in spectacular drooping form, illustrating, without a doubt, that the Leyland cypress inherits its assertive V-shaped branching from the Monterey cypress side of the family. Continuing to the northeast corner of campus, one walks by a large *Pinus pinea* (Italian stone pine) with its pine-nut-laden, ankle-twisting cones littering the ground before reaching a group of mature pine and true fir species that would test any horticulturist's identification skills.

Education Garden Conifer Tour

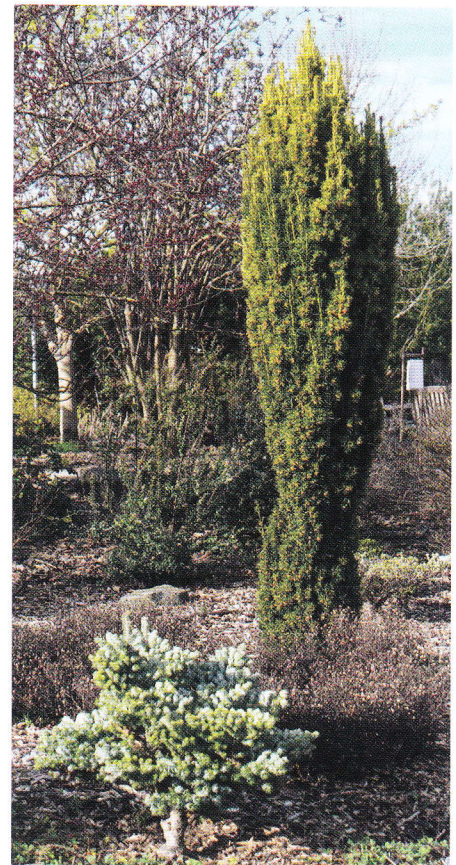
Although most of the Education Garden's 62 unique conifer cultivars are concentrated in the *Chamaecy-*



Above: Grouping of *Pinus* (pine) and *Abies* (fir) species on the northeast corner of campus.

paris (false-cypress), *Pinus* (pine), and *Cryptomeria* (Japanese cedar) beds at the garden's center in the Community Circle, conifers are included in all the planting beds. *Pinus flexilis* 'Vanderwolf's Pyramid' (limber pine), *Cupressus arizonica* var. *glabra* 'Blue Ice' (smooth-bark Arizona cypress), and several cultivars of *Pinus mugo* (mountain pine), among other conifers, are well suited to the drier irrigation regimen of the Waterwise Garden. The rush of lemon oil from a deep whiff of *Cupressus macrocarpa* 'Wilma' foliage secures this Monterey cypress cultivar a place in the Fragrance Garden.

We all know that conifers pull their weight in the garden year-round. In the Insect and Pollinator Gar-



Above right: A deer-pruned *Taxus baccata* 'Aureomarginata' (golden English yew) and *Abies koreana* 'Kohouts Icebreaker' (dwarf Korean fir), the latter donated by Bob Fincham.



Above top: *Pinus contorta* 'Spaan's Dwarf' (dwarf shore pine), donated by David Leckey of Oregon Small Trees Nursery.



Above: *Picea pungens* 'The Blues' (weeping Colorado spruce).

den, conifers and other evergreens furnish crucial seasonal balance when most of the plants they grow among have died back into drab, off-season sepia tones. Winter's cold temperatures trigger the foliage of some conifers to lighten in color; for others, it's the emerging spring foliage that exhibits the brightest shades. Examples of each can be found in the Insect and Pollinator Garden. In spring, as the needles of *Abies concolor* 'Wintergold' (golden white fir) deepen from dandelion-yellow to light green, the brilliant, yellow-edged leaves of *Taxus baccata* 'Fastigiata Aureomarginata' (golden English yew) emerge. After many years of languishing in a pot, this golden English yew received a second chance at life when it was donated and planted at the Education Garden, where it now stands more than eight feet tall. The lower few feet, narrower than the rest, are evi-

dence that this male yew is subject to annual winter pruning by the campus's non-matriculating deer.

Although the Education Garden is young, we are fortunate to have a few older specimens, including a stately *Pinus contorta* 'Spaan's Dwarf' (dwarf lodgepole pine, donated by David Leckey of Oregon Small Trees Nursery) that is the centerpiece of the *Pinus* bed. *Picea pungens* 'The Blues' (weeping Colorado spruce) languished in failing condition in a pot for years before being donated and planted at the Education Garden, where it is now the picture of health and developing a personality. The prize for the conifer with the most personality, however, would hands-down go to *Pinus sylvestris* 'Green Penguin' (dwarf Scots pine), whose gnome-like cuteness draws many over to the *Pinus* bed. Visitors quickly learn that not all that is cute is cuddly;

with prickly needles that deliver quite a bite, perhaps a "Do Not Pet" sign should be placed next to this conifer as a warning.

Reference Garden Recognition

Together, the PCC Rock Creek campus and the Education Garden are home to nearly 300 conifer specimens, making it a logical step in their partnership to apply jointly to become an ACS Reference Garden. The benefits of being an ACS Reference Garden have been numerous! One of our two sponsors for the ACS Reference Garden application, Bob Fincham, asked us at the Education Garden if we wouldn't mind if he donated "a few" plants. Clearly a rhetorical question for any gardener, we were delighted and stunned by Bob's generosity when, on the following Saturday morning, he pulled up in his truck brimming with upwards of 20 plants, includ-



Above: Maryann Lewis instructing Master Gardeners on how to prune *Chamaecyparis obtusa* 'Melody' (golden Hinoki cypress) and keep it in balance with neighboring plants.



Above: *Pinus sylvestris* 'Green Penguin' (Scots pine) with fellow conifers and companion plants: *Cedrus brevifolia* 'Kenwith' (Cypriot cedar), *Pinus strobus* 'Mini Twists' (eastern white pine), *Cercis chinensis* 'Don Egolf' (Chinese redbud), among others.

ing two *Abies koreana* 'Kohouts Icebreaker' (dwarf Korean fir) of considerable age and beauty.

Our second sponsor, Anton Klemens, who also donated plants, referred us during his site visit to Maryann Lewis, an aesthetic pruner of great skill, who has been instructing Master Gardeners in the art of conifer pruning over the last three years. In 2019, the newly installed Education Garden looked terribly sparse. But by 2023, a number of the dwarf conifers and other plantings had already begun to compete for space or spill into the walkways. Maryann's guidance on balancing adjacent plants of differing forms, textures, and growth rates has been nothing short of inspirational, and watching her, in real-time, sculpt a dense, shapeless

blob of a pine into an open, airy work of garden art is like witnessing a maestro whose batons are pruning shears and an arborist saw.

In the fall of 2023, we applied for and were awarded a Reference Garden grant to upgrade the approximately 300 plant labels in the Education Garden to permanent metal plant signs. The generous check was given to Master Gardeners by Larry Stanley on a sunny Saturday in October at a Western Region Rendezvous event on the lovely grounds of the Crowfoot Nursery in Sandy, Oregon. Accurate and clear plant signage is crucial to the Education Garden's mission. Besides that, the etched metal labels look so darn nice! We are grateful and overjoyed that the ongoing chore of replacing faded paper labels is firmly in the past.

2026 Annual ACS Meeting

When the ACS National Meeting is held in the Portland area in 2026, the Reference Garden will be featured on the list of recommended tours. We are delighted to have the opportunity to share the Education Garden and the PCC Rock Creek campus with the ACS membership. Master Gardeners will be on hand at the Education Garden to greet members, answer questions, and give informal tours. We look forward to seeing you then!

Elizabeth Price is a Master Gardener and author of *Native and Ornamental Conifers in the Pacific Northwest: Identification, Botany and Natural History*. She has lived among the Pacific Northwest's conifer forests for over 25 years.