About Our Cover

Horticultural Eden at the End of the Oregon Trail

Horticulture came west to the "Oregon Country" with the pioneers on the Oregon Trail. Oregon's early horticultural industry can be traced to Henderson Luelling, who established a nursery from a wagon load of grafted nursery stock that he carefully kept alive on the 2500-mile journey from Salem, Iowa, in 1847. This nursery, near Portland, was a source of fruit trees, which added greatly to the production of fruits and vegetables started by Hudson Bay Co. settlers. The earlier plantings were from seeds brought from England. Within a few years, Luelling's apples were being sold in the California gold fields for one dollar each (Gaston, 1912). By 1858 several "agricultural societies" had been organized, and the Fruit Growers Association was founded. Oregon's first state fair was held in 1861, which gave horticulturists an opportunity to show off their diverse produce.

To the present time, diversity has remained the dominant feature of Oregon's large agricultural industry. High-value horticultural specialty crops comprise the largest component of Oregon's agricultural industry, accounting for $1.8 billion in wholesale processed value in 1992 (Miles, 1993). These crops include fruits, nuts, vegetables, ornamentals, essential oil crops, and flower and vegetable seeds. Oregon is a significant contributor to the nation's horticultural crop production. It is placed within the top three producing states for at least 17 crops, including processed snap beans, nursery crops, pears, red raspberries, and strawberries. It is the leader in the production of several crops and is unique in that 98% of hazelnuts and black raspberries, 75% of blackberries, and more than half of the peppermint produced in the United States are grown in Oregon.

The diversity of Oregon's horticulture is also characterized by geographically dispersed production areas. Fitting particular crops to unique climates and soils has shaped the horticultural industries found within the state's specific regions. Figure 1 shows the location of research and extension centers in major production areas. The Willamette Valley, which extends from ≈65 km south to ≈ 130 km north of Corvallis, is the site of the most extensive areas of horticultural crop production and also has the greatest crop diversity. Oregon's nursery, berry, and many vegetable crops are concentrated here. Also, several tree crops are grown in the Willamette Valley; notable among these are hazelnuts and Christmas trees. Hood River and Rogue River (Medford) are smaller valleys and are planted mostly with tree crops, especially pears. The remaining research and extension centers, in central and eastern Oregon, are located in vegetable-growing areas. Important crops produced in these more arid, irrigated regions include potatoes, onions, mint, and vegetable seeds.

Climate has a major influence on the horticultural crops produced in Oregon. Many high-value crops grow better in Oregon than almost anywhere else in the world because of the warm, dry, sunny summer days; cool nights; long frost-free growing season; unusually mild winters for the latitude; and relative absence of catastrophic weather, such as hail and wind storms. Complementary to the warm, dry summers is an adequate supply of high-quality water for irrigation. Freedom from several major diseases and insects that limit production in other regions is also a significant advantage. Oregon commodities, including berries, winter pears, hazelnuts, wines, several vegetables, Christmas trees, and bulb and nursery crops, set standards of quality nationally and command premium prices in competitive markets.

About 13% of Oregon's cropped land and only 0.6% of its total land area is used for growing horticultural crops (Crabtree et al., 1991). As described above, areas of horticultural production are distributed widely from north to south, and west to east. Therefore, many of these areas are served by research and extension centers. Those with important horticulture programs include the Central Oregon Agricultural Research Center (Madras), Hermiston Agricultural Research and Extension Center (Hermiston), Klamath Experiment Station (Klamath Falls), Malheur Experiment Station (Ontario), Mid-Columbia Agricultural Research and Extension Center (Hood River), North Willamette Research and Extension Center (Aurora), and Southern Oregon Agricultural Research and Extension Center (Medford). Programs at these widely dispersed units are coordinated through the College of Agricultural Sciences and related administrative units at Oregon State Univ. in Corvallis. The head of the Dept. of Horticulture provides overall leadership for the horticulture programs.

The organizational structures of Oregon State Univ., the College of Agricultural Sciences, Agricultural Experiment Station, Cooperative Extension Service, and the Dept. of Horticulture are typical of others found in the United States. The department's activities are divided among on-campus instruction, research, extension, and international programs.

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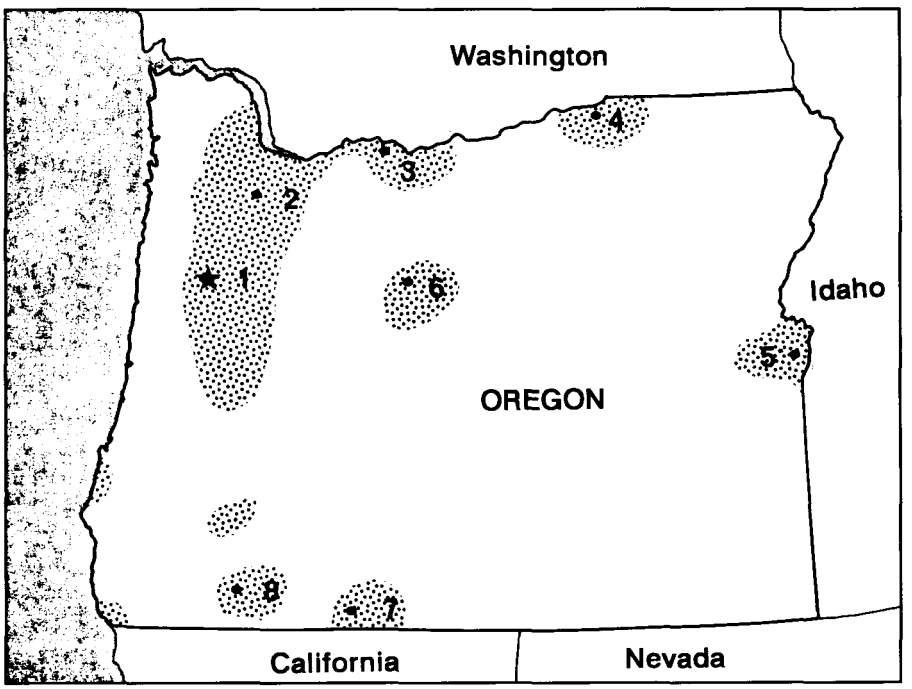

Fig. 1.Locationofthemajorhorticulturalproductionareasandofhorticulturally important research centers in Oregon. (1) Oregon State Univ. campus, Corvallis; (2) North Willamette Research and Extension Center, Aurora; (3) Mid-Columbia Agricultural Research and Extension Center, Hood Rivet (4) Hermiston Agricultural Research and Extension Center, Hermiston; (5) Malheur Experiment Station, Ontario; (6) Central Oregon Agricultural Research Center, Madras; (7) Klamath Experiment Station, Klamath Falls; (8) Southern Oregon Agricultural Research and Extension Center, Medford.

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Front cover: Black raspberry field near Mt. Hood, Ore. Photo courtesy of the Oregon Raspberry and Blackberry Commission.

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These programs are served by *33* faculty, 9 courtesy faculty, and 24 adjunct faculty located at Corvallis and throughout the state.

Historically, horticulture at Oregon State Univ. paralleled the development of the horticultural industry in Oregon. Horticulture classes were first taught in the 1872–73 academic year, and the Dept. of Botany and Horticulture was formed in 1888. The present administrative structure, with a Dept. of Horticulture, was established in 1906. In its beginning, Oregon's horticultural industry was dominated by fruit production, and this was reflected in the department's early curricula. Vegetable production gained prominence in the first half of this century with the development of better irrigation technology and growth of the processing industry. Currently, undergraduate majors have curricular options of horticultural science or turf and landscape management; areas of concentration for graduate students are culture and management, genetics and breeding, or physiology and biochemistry. Horticulture graduate faculty also advise graduate students in intercollegiate programs in genetics, molecular and cell biology, and plant physiology. In the Dept. of Horticulture, graduate studies particularly are closely enmeshed with the department's research mission.

Oregon State Univ. facilities, especially research facilities, have steadily improved through this century. In that time, the Dept. of Horticulture has been located in four buildings on the campus, starting with a small, wooden structure shared with the Dept. of Photography. The latest change was in 1992, when the Dept. of Horticulture moved into the newly completed Agricultural and Life Sciences Building. The department now occupies the fourth floor and a portion of the basement. In addition to the modem laboratories, classrooms, and offices in this new building, horticulture faculty and students make good use of university facilities such as greenhouses, libraries, Computer Center, and Communication Media Center, and laboratories shared by other departments in collaborative research programs. Support facilities managed by the Dept. of Horticulture in the Corvallis area also have changed, and now consist principally of three research farms. Two research farms totaling 90 ha, of which 10 ha are shared with the National Plant Germplasm Repository, are located immediately east of Corvallis. A 10-ha research vineyard 42 km south of the campus serves the viticulture program.

Oregon's horticultural industry and the Dept. of Horticulture at Oregon State Univ. have experienced an interesting past and have achieved national prominence. Although Oregon currently is experiencing the effects of the downturn in the national economy and tax reform measures. which are reflected in the horticultural industry and academia, the future for horticulture in Oregon looks bright. We anticipate that the major expansion and growth in Oregon's agriculture will be in horticultural crop production and processing. Strong programs are in place or are being developed to preserve the natural resources that provide a favorable environment for horticulture, and Oregonians are not expected to abandon their historic support of education.

An invitation

The faculty, staff, and students of the Dept. of Horticulture of Oregon State Univ. invite you to attend the 91st ASHS annual meeting in Corvallis, 7–10 Aug. 1994.

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