

# ‘Oregon Snowflake’ Flowering Currant

Ryan N. Contreras<sup>1,3</sup> and Mara W. Friddle<sup>2</sup>

Department of Horticulture, Oregon State University, 4017 Agricultural and Life Sciences Building, Corvallis, OR 97331-7304

*Additional index words.* *Ribes sanguineum*, Grossulariaceae, mutagenesis, EMS, ornamental plant breeding, landscape plant Chemical names: ethyl methanesulfonate (EMS)

Flowering currant (*Ribes sanguineum* Pursh.), also known as winter currant, is native to the West Coast of the United States, primarily west of the Coast Range from southern California north to British Columbia with populations also occurring in Idaho. The species is prized for its early spring flowers in pendulous racemes of 7 to 10 cm in colors including white, pink, and rose red. Improved cultivars have been selected primarily based on floral traits. These include White Icicle™ (= ‘Ubric’) with profuse white flowers on a shrub that reaches 2.5 m high and 1.8 m wide. ‘Pokey’s Pink’ and ‘King Edward VII’ are grown for their clear pink and red flowers, respectively. The growth habit of the species and most of its cultivars is larger than desired and the plants tend to become leggy and exhibit an overall poor form. ‘Oregon Snowflake’ was developed at Oregon State University (OSU) and released by the Oregon Agriculture Experiment Station for its improved plant habit, which is mounding and semidwarf as well as its unique leaf shape.

## Origin

‘Oregon Snowflake’ was derived from wild-collected seeds purchased from Seven Oaks Native Nursery (Albany, OR) that were treated with ethylmethane sulfonate (EMS) to induce mutations that would result in plants with improved phenotypes. Lots of 500 seeds were immersed in 50 mL each of 0, 0.2, 0.4, 0.8, and 1.2% EMS in a 0.1 M sodium phosphate buffer solution (pH 7.0). There were three replicates of each treatment and 24- and 48-h durations of each treatment. Seeds were then triple-rinsed for 15 min each rinse for a total of 45 min in Millipore (EMD Millipore, Billerica, MA) water and put into cold stratification at 3 °C for 6 weeks before sowing. Seeds were sown in 25.4 cm × 50.8-cm flats filled with a 1:1 (v:v) mix of Sunshine potting mix SB40 (Sun Gro Horticulture, Bellevue, WA) and douglas-fir [*Pseudotsuga menziesii* (Mirb.) Franco] bark mulch.

‘Oregon Snowflake’ was selected in 2011 as accession OSU-11-0020-48-0-052 from a population of ≈300 surviving plants based

on its highly dissected leaf morphology while growing in a 1-L container in a glasshouse. It was propagated by stem cuttings and the resulting plants were used to establish a replicated (non-randomized) trial in 2012 as plants 13-01 (original plant), 13-02, 13-03, 13-04, 13-05, and 13-06 at the Lewis-Brown Horticultural Research Farm (Corvallis, OR) (Fig. 1). Container-grown plants were also distributed to commercial nurseries in Oregon for evaluation under Material Transfer Agreements.



Fig. 1. *Ribes sanguineum* ‘Oregon Snowflake’ during winter demonstrating its dense branching. The original plant is in the foreground with five replicates planted after it, which demonstrates the consistency of growth habit in plants propagated from stem cuttings.

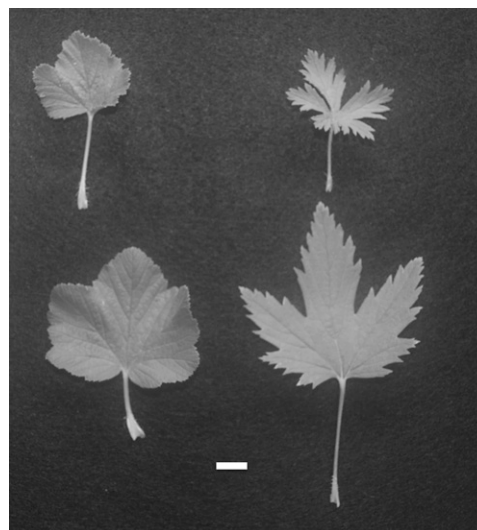


Fig. 2. Comparison of leaves of *Ribes sanguineum* White Icicle™ leaves (left) and ‘Oregon Snowflake’ (right), including immature leaves (top) and mature leaves (bottom). Scale = 1 cm.

Received for publication 5 Nov. 2014. Accepted for publication 3 Dec. 2014.

<sup>1</sup>Assistant Professor.

<sup>2</sup>Faculty Research Assistant.

<sup>3</sup>To whom reprint requests should be addressed; e-mail ryan.contreras@oregonstate.edu.

Table 1. Comparison of *Ribes sanguineum* ‘Oregon Snowflake’ and White Icicle™.

Trait	Cultivar	
	Oregon Snowflake	White Icicle™
Mature height <sup>a</sup>	121 cm	154 cm
Mature width	133 cm	115 cm
Growth habit	Densely branched, semidwarf; low, mounded shape	Upright, ascending branches; few lateral branches
Leaf shape	Palmatifid with 5 lobes, deep sinuses; lobes serrate-incised	Rounded lobes (5) with shallow sinuses; crenate-serrate
Leaf length with petiole	92.8 mm	53.3 mm
Leaf blade length	50.6 mm	36.7 mm
Leaf width	52.6 mm	53.4 mm

<sup>a</sup>‘Oregon Snowflake’ measurements were collected on 20 Mar. 2014 from original plant that was planted in Spring 2012 as a 11.4-L container-grown plant. White Icicle™ measurements were collected on 20 Mar. 2014 from a plant that was planted Spring 2013 as an 11.4-L container-grown plant. The comparative height of White Icicle™ was likely underestimated by this measurement, because the plant was 1 year younger than ‘Oregon Snowflake’.

(RHS) 137B; RHS, 2007). The abaxial surface of immature leaves was green (RHS 137D) with veins that were a lighter color (RHS 138C). Inflorescences were pendulous racemes that averaged 10 cm with 39 flowers. Flowering begins in mid-March in Corvallis; overall flowering phenology and flower morphology for ‘Oregon Snowflake’ were comparable to White Icicle™. Flowers were tubular with reduced petals and a prominent, showy calyx. The outer color was green–white (RHS 157D) and flowers averaged 2 cm from base of the pedicel to the tip of the calyx lobes. During early Dec. 2013, plants experienced –19 °C and flower buds of ‘Oregon Snowflake’ and White Icicle™ were killed above the snow level; however, vegetative buds and stems of both cultivars survived. This freeze event was unusual in its severity and earliness.

### Culture

‘Oregon Snowflake’, like other flowering currant cultivars, prefers moist, well-drained soil in full sun or partial shade and is best used in shrub borders. After it is established, we expect that ‘Oregon Snowflake’ will be moderately drought-tolerant similar to the species; however, we have not tested it without supplemental irrigation during summer.

### Propagation

Plants have been repeatedly propagated through stem cuttings. Terminal softwood cuttings treated with a basal dip of 1000 ppm aqueous solution of indole butyric acid potassium salt root readily. We have observed at least 80% rooting success of terminal cuttings

but only ≈45% of non-terminal lateral stem cuttings rooted. ‘Oregon Snowflake’ has retained its characteristics with no variants through 4 years of container and 3 years of field growing as well as successive propagation through stem cuttings (at least five successive serial propagation events) in the research program at OSU as well as in commercial nurseries. Initial flushes of growth exhibit leaf morphology more closely resembling the wild type; however, subsequent flushes of growth clearly demonstrate the characteristic dissected leaf morphology of ‘Oregon Snowflake’. A herbarium voucher was deposited into the OSU Herbarium as accession OSC 240116.

### Availability

OSU has submitted a U.S. Plant Patent application for ‘Oregon Snowflake’ and will retain the rights. Propagation and production rights as well as a list of licensed growers can be obtained by contacting the Senior Intellectual Property & Licensing Manager, Office for Commercialization and Corporate Development, 312 Kerr Administration Building, OSU, Corvallis, OR 97331-2140. Information on the release and small numbers of liners or stem cuttings may be obtained from R.N. Contreras.

### Literature Cited

Royal Horticultural Society. 2007. RHS colour chart. 5th Ed. RHS, London, UK.