

Noncrop Host Plants of Spotted Wing Drosophila in North America

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Spotted wing Drosophila (SWD), *Drosophila suzukii*, is an invasive fly that lays eggs in ripening and ripe berries, and stone fruits. The developing larvae can make the fruit unmarketable, so this pest is a concern to producers, packers, processors, and distributors of these crops.

Landscapes surrounding fruit production fields often include hedgerows, adjacent field margins, and woody or riparian areas with ornamentals, unmanaged shrubs, vines, or other plants that also produce fruits. Noncrop habitats can meet the requirements that favor SWD adults and their natural enemies: food, shelter, shade, and humidity. In addition, many noncrop fruits can support developing larvae of SWD. As populations of SWD build in noncrop hosts, these areas can become “hot spots” from which SWD can move into fields as commercial fruits begin to ripen. In some regions, these plants are important for late season population buildup outside crop fields.

From this publication, commercial and backyard fruit growers and field advisors will learn which plants can serve as alternate egg-laying sites for SWD. This list of noncommercial fruits was developed from multiyear sampling to determine likely noncrop hosts for SWD larvae. Regional differences in the importance of each plant host may occur due to differences in environmental conditions. The list is not exhaustive but includes what is known at this time about plants commonly found in British Columbia, Washington, Oregon, California, Michigan, New York, and Florida. We expect this list to expand as more becomes known about noncrop hosts for SWD.



Blue elderberry



Cherry laurel

Thistlewood Lab, Agriculture and Agri-Food
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Noncrop Fruits Found to Support SWD Larval Development in Fruit-Producing Regions of North America

Common name	Scientific name ¹	Family	Fruit timing
Barberry: hollyleaved	<i>Berberis aquifolium</i> Pursh	Berberidaceae	Summer-fall
Blackberry: Allegheny, Himalaya	<i>Rubus allegheniensis</i> Porter, <i>R. bifrons</i> Vest	Rosaceae	Summer-fall
Buckthorn: cascara, common	<i>Rhamnus purshiana</i> DC., <i>R. cathartica</i> L.	Rhamnaceae	Late summer-fall
Cherry: wild, mahaleb, black, chokecherry	<i>Prunus avium</i> (L.) L., <i>P. mahaleb</i> L., <i>P. serotina</i> Ehrh., <i>P. virginiana</i> L.	Rosaceae	Summer
Cotoneaster: milkflower	<i>Cotoneaster lacteus</i> W.W. Sm.	Rosaceae	Spring-summer
Currant: golden, northern black	<i>Ribes aureum</i> Pursh, <i>R. hudsonianum</i> Richardson	Grossulariaceae	Summer
Dogwood: silky, stiff, Japanese, gray, redosier ²	<i>Cornus amomum</i> Mill., <i>C. foemina</i> Mill., <i>C. kousa</i> Hance, <i>C. racemosa</i> Lam., <i>C. sericea</i> L.	Cornaceae	Summer-fall
Elderberry: blue, black, Rocky Mountain elder	<i>Sambucus nigra</i> spp. <i>cerulea</i> (Raf.) R. Bolli, <i>S. nigra</i> L., <i>S. racemosa</i> var. <i>melanocarpa</i> (A. Gray) McMinn	Adoxaceae	Summer-fall
Fig ³	<i>Ficus carica</i> (L.)	Moraceae	Summer-fall
Honeysuckle: Bell's, blue, Morrow's, tatarian	<i>Lonicera X bella</i> Zabel, <i>L. caerulea</i> L., <i>L. morrowii</i> A. Gray, <i>L. tatarica</i> L.	Caprifoliaceae	Summer-fall
Laurel: cherry, Portugal	<i>Prunus laurocerasus</i> L., <i>P. lusitanica</i> L.	Rosaceae	Summer-fall
Mulberry: 'Illinois ever bearing', black, red	<i>Morus alba x rubra</i> , <i>M. nigra</i> L., <i>M. rubra</i> L.	Moraceae	Summer-fall
Nightshade: bittersweet ²	<i>Solanum dulcamara</i> L.	Solanaceae	Summer-fall
Oleaster: autumn olive	<i>Elaeagnus umbellata</i> Thunb.	Elaeagnaceae	Summer
Orange jasmine ⁴	<i>Murraya paniculata</i> (L.) Jack	Rutaceae	Fall
Pokeweed: American	<i>Phytolacca americana</i> L.	Phytolaccaceae	Summer-fall
Salmonberry	<i>Rubus spectabilis</i> Pursh	Rosaceae	Summer
Snowberry: common ²	<i>Symphoricarpos albus</i> (L.) S.F. Blake	Caprifoliaceae	Fall-winter
Spicebush	<i>Lindera benzoin</i> (L.) Blume	Lauraceae	Fall
Sweet box	<i>Sarcococca confusa</i> Sealy	Buxaceae	Fall-spring

¹ Taxonomic names are from the Integrated Taxonomic Information System (ITIS) (<http://www.itis.gov>) except for *S. confusa*, which was taken from the USDA Germplasm Resources Information Network (GRIN) (http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl).

² Common snowberry, redosier dogwood, and bittersweet nightshade were repeatedly sampled in the dry interior of British Columbia. SWD larvae were not found there but were found in those hosts in Oregon, Michigan, and New York. Similar regional differences in the importance of plant hosts may occur.

³ Host record in Yu, Zalom & Hamby. 2013. *J. Economic Entomology*.

⁴ Host record in Plant Inspection Advisory report, Memo to: Bureau of Plant & Apiary Inspectors and Supervisor, Florida, May 6, 2010.



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Himalaya blackberry



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Mahaleb cherry



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Hollyleaved barberry



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Sweet box



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Tartarian honeysuckle

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