

# Fruit Production Recommendations 2010-2011

Ontario Ministry of Agriculture, Food & Rural Affairs

## Chapter 8: Tree Nuts



### Filbert/Hazelnut Calendar

Read the label and follow all safety precautions.

For preharvest interval, re-entry period, maximum number of applications and chemical group, see Table 8-1. *Products Used on Tree Nuts*, page 191.

Diseases and Insects	Products	Amount	Comments
<b>Bud break (up to ¼ inch vegetative growth)</b>			
Eastern filbert blight	Guardsman Copper Oxychloride 50, or Copper Spray	3.0 kg/ha 3.0 kg/ha	<p><b>Copper products:</b> Apply during the spring at bud swell and repeat at 10–14 day intervals. Use no more than three applications per year. Use 3.0 kg/ha on small trees and up to 9.0 kg/ha on large trees. May be applied up to one day before harvest.</p> <p>Flint: Use 140 g/ha on small trees or up to 280 g/ha on larger trees. Begin applications at bud break and continue as needed on a 14-day interval. Make no more than 2 consecutive applications, and then choose copper fungicides for the next two applications. Use a maximum of 4 applications per year. Avoid drift, especially to Concord grapes.</p>
	Flint 50 WG	140–280 g/ha	
<b>Early Spring (&gt; ¼ inch vegetative growth)</b>			
Eastern filbert blight	Apply one of the fungicides listed for this disease under <b>Bud Break</b> . Some products have limited numbers of applications per year.		
Leafrollers	Dipel 2X DF	1.12 kg/ha	<p><b>Dipel:</b> Apply when small larvae are present. Apply in 600–800 L/ha using an orchard air-blast sprayer. Repeat in 7–10 days or after bloom if populations are large. Although Dipel is not toxic to bees, avoid application during bloom. Use 1.6 kg/ha for large or mature trees. This product may also provide control of other spring feeding caterpillars.</p> <p>Surround: Reduces damage due to leafrollers. Apply in 1,000 L water/ha. Apply just prior to green tip stage or when larvae are first seen. Make a first application before larvae roll up into leaves and a second application 7 days later. Repeat at 7–14 day intervals as subsequent generations emerge. See notes on <i>Kaolin Clay (Surround WP)</i>, page 17.</p>
	Surround WP	50.0 kg/ha	

Diseases and Insects	Products	Amount	Comments
Aphids	Lagon 480 E or Cygon 480-AG  Movento 240 SC  Opal Insecticidal Soap	5.0 L/ha 5.0 L/ha  365 mL/ha  20 L/1,000 L water	<b>Lagon, Cygon:</b> Apply primarily on younger trees when aphids appear. Do not apply within 45 days of harvest. Use no more than one application per year. <b>Movento:</b> Has slow activity; control may not be apparent for 2–3 weeks. Under high pressure a second application may be necessary. Allow at least 14 days between applications. Thorough coverage is necessary for good control of aphid and scale pests. See label for recommendations to prevent spray drift. Do not apply more than 1.58 L/ha/year. <b>Opal:</b> Apply 700–1,900 L of spray solution/ha. Spray to wetting but minimize runoff. Begin applications when pests first appear. Repeat every 1–3 weeks as needed. Use no more than 3 consecutive applications; additional applications will increase the risk of plant injury. Avoid application in direct sunlight.
Mites	Opal Insecticidal Soap	20 L/1,000 L water	Monitor for young nymph stages using a 10× hand lens. Treat in late spring or early summer if populations become high and leaf bronzing appears. See comments on Opal for aphids, above. Mites are usually controlled by natural predators.
San Jose scale	Movento 240 SC	585 mL/ha	Monitor main branches for adult scale. This pest is rarely a problem on hazelnuts.
Spring-feeding caterpillars	Spring-feeding caterpillars are a complex of several species of Lepidoptera (moth family), including fruitworms, tent caterpillars, leafrollers, gypsy moth and others that are active early in the season from bud break through mid June. They cause varying degrees of damage in orchards. With the exception of leafrollers, there are no products registered for control of spring-feeding caterpillars. Many predatory and parasitic insects, and diseases, attack these pests and help to reduce caterpillar populations.		
<b>Summer</b>			
Aphids	Apply an insecticide listed for this insect under <b>Early Spring</b> . Some products have limited numbers of applications per year.		
Japanese beetle	Adult beetles can severely defoliate hazelnut orchards beginning in late spring and can continue well into summer. There are currently no insecticides registered for control of adult Japanese beetles on hazelnut. Clean cultivation may help reduce larvae populations in the orchard soil, however new adults usually fly in from other areas.		
Filbert worm	Filbert worm is native to Ontario on wild hazelnuts and may become a problem in commercial orchards. Monitor samples of nuts near harvest for signs of internal feeding by larvae.		
Wood-boring insects	Monitor main branches and trunk for small holes and sawdust on the ground near the trunk. Hazelnuts are host to several wood-boring insect pests that are common to commercial fruit orchards and forest tree and shrub species. There are no insecticides registered for wood-boring insects on hazelnut.		
<b>Postharvest</b>			
Bacterial blight	Guardsman Copper Oxychloride 50 or Copper Spray	3.0 kg/ha  3.0 kg/ha	Apply the first spray in late August or early September before the start of the fall rains and nut drop. Repeat after harvest at leaf fall. Repeat in early spring just before leaf bud break. Use 3.0 kg/ha on small trees, and up to 9.0 kg/ha on large trees in proportionately more water.

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