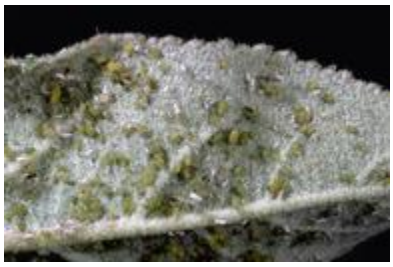
Apple



Green Apple Aphid

Scientific name: *Aphis pomi*

(Reviewed 8/06, updated 1/11)

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DESCRIPTION OF THE PEST

Overwintering eggs are found on twigs of the previous season's growth and on fruit spurs. They are identical in appearance to rosy apple aphid eggs : shiny, black, and football shaped. Newly hatched apple aphids are dark green. Mature aphids on apple foliage in spring and summer have a bright, yellow-green abdomen with darker green lateral spots.

DAMAGE

Green apple aphids infest succulent terminal growth and when infestations are severe will also be found on fruits. High populations on young trees may seriously retard normal growth and result in irregular shoot growth. On bearing trees, heavy infestations of aphids may cover the fruit and foliage with honeydew on which a black, sooty mold develops. The mold can hinder leaf function and lower fruit grade.

MANAGEMENT

Green apple aphid feeds on both apple and pear trees and occasionally on hawthorn, loquat, pyracantha, and quince; apple, however, is the preferred host. Although green apple aphid is subject to wide fluctuations in abundance, it generally occurs yearly in most apple orchards. Natural enemies often control this aphid.

Biological Control
There are many natural enemies which feed on aphids. Among the most important are lady beetles, green lacewings, brown lacewings, and syrphid fly larvae.

Organically Acceptable Methods
Biological controls and sprays of insecticidal soap, approved narrow range oils, and azadirachtin (Neemix) are organically acceptable.

Monitoring and Treatment Decisions
A delayed dormant spray of oil will prevent early injury and should eliminate the need for further sprays.

If more than 45% of the tree's shoots are infested during the summer, assess the abundance of predators. Treatment may be warranted if 60% or more of the tree's terminals are infested. Spring treatments may also be necessary for young trees with severe infestations.

Common name (trade name)	Amount to use** (conc.)	(dilute)	R.E.I.+ (hours)	P.H.I.+ (days)

When choosing a pesticide, consider information relating to the impact on natural enemies and honey bees Not all registered pesticides are listed. Always read label of product being used. and environmental impact.

DELAYED DORMANT (Preferred timing)

A. DORMANT FLOWABLE EMULSION OIL — 4–6 gal — 1–1.5 gal — 4 — 0
MODE OF ACTION: Contact including smothering and barrier effects.
COMMENTS: Apply at delayed dormant to silver tip stage.

FOLIAGE SPRAY

A. SPIROTETRAMAT
(Movento) — 6–9 fl oz — — — 24 — 7
MODE OF ACTION GROUP NUMBER[1]: 23
COMMENTS: Do not apply until after petal fall. Allow 14 days between applications. Maximum is 25 fl oz/acre (0.4 lb a.i./acre)/crop/season.

B. IMIDACLOPRID
(Provado) 1.6F — 8 oz — 2 oz — 12 — 7
MODE OF ACTION GROUP NUMBER[1]: 4A
COMMENTS: Provides good control. Allow 10 days between applications. Repeat applications of *any* neonicotinoid insecticide (acetamiprid-Assail; imidacloprid- Provado; and thiacloprid-Calypso) can lead to resistance to *all* neonicotinoids. Alternate neonicotinoids with an insecticide that has a different mode of action to help delay the development of resistance. To help prevent development of resistance, do not use for both codling moth and aphid control.

C. ACETAMIPRID
(Assail) 70 WP — 1.7-3.4 oz — — — 12 — 7
MODE OF ACTION GROUP NUMBER[1]: 4A
COMMENTS: May cause outbreaks of mites, especially in orchards with chronic mite problems; addition of 1% oil (volume by volume) and limiting applications to a single application may help mitigate mite problems. Repeat applications of *any* neonicotinoid insecticide (acetamiprid-Assail; imidacloprid- Provado; and thiacloprid-Calypso) can lead to resistance to *all* neonicotinoids. Alternate neonicotinoids with an insecticide that has a different mode of action to help delay the development of resistance. To help prevent development of resistance, do not use for both codling moth and aphid control.

D. DIAZINON* — 4 lb — 1 lb — 4 days — 21
MODE OF ACTION GROUP NUMBER[1]: 1B
COMMENTS: Applications made during the foliage season are harmful to beneficials. Avoid drift and tailwater runoff into surface waters.

E. INSECTICIDAL SOAP# — Label rates — 12 — 0
(M-Pede)
MODE OF ACTION: A contact insecticide with smothering and barrier effects.
COMMENTS: More than 1 application may be necessary because this material has little residual action.

F. NARROW RANGE OIL#
(JMS Stylet Oil, Omni, etc.) — Label rates — see label — 0
MODE OF ACTION: Contact including smothering and barrier effects.
COMMENTS: Apply as soon as colonies are found and reapply at 7- to 10-day intervals as long as

active colonies are found.

G. NARROW RANGE OIL#
(JMS Stylet Oil, Omni, etc.) Label rates see label 0
MODE OF ACTION: Contact including smothering and barrier effects.
. . . PLUS . . .
AZADIRACHTIN#
(Neemix) Label rates 12 0
MODE OF ACTION GROUP NUMBER[1]: 18B
COMMENTS: Apply as soon as colonies are found and reapply at 7- to 10-day intervals as long as active colonies are found. Azadirachtin without oil is not effective in controlling this pest.

** For dilute application, rate is per 100 gal water to be applied in 300–500 gal water/acre, according to label; for concentrate applications, use 80–100 gal water/acre or lower if the label allows.
+ Restricted entry interval (R.E.I.) is the number of hours (unless otherwise noted) from treatment until the treated area can be safely entered without protective clothing. Preharvest interval (P.H.I.) is the number of days from treatment to harvest. In some cases the REI exceeds the PHI. The longer of two intervals is the minimum time that must elapse before harvest.
* Permit required from county agricultural commissioner for purchase or use.
# Acceptable for use on organically grown produce.
[1] Rotate chemicals with a different mode-of-action Group number, and do not use products with the same mode-of-action Group number more than twice per season to help prevent the development of resistance. For example, the organophosphates have a Group number of 1B; chemicals with a 1B Group number should be alternated with chemicals that have a Group number other than 1B. Mode of action Group numbers are assigned by IRAC (Insecticide Resistance Action Committee). For additional information, see their Web site at http://www.irac-online.org/.

PUBLICATION

UC PEER REVIEWED

UC IPM Pest Management Guidelines: Apple
UC ANR Publication 3432
Insects and Mites
J. L. Caprile, UC Cooperative Extension, Contra Costa County
L. R. Wunderlich, UC Cooperative Extension, El Dorado County
P. M. Vossen, UC Cooperative Extension, Sonoma and Marin counties
W. W. Coates, UC Cooperative Extension, San Benito County
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http://www.ipm.ucdavis.edu/PMG/r4301611.html