Table 4. Characteristics of insecticides for use in home fruit plantings.

INSECTICIDE NAME	FORMULATIONS (% active ingredient)	CHEMICAL FAMILY	MAMMALIAN TOXICITY CLASS (I= most toxic; III= least toxic)	CHARACTERISTICS
azadirachtin (neem)	liquid concentrate (0.09%)	botanical	III	Broad spectrum. Derived from seeds of a tropical legume tree.
B.t., *Bacillus thuringiensis* (DiPel, MVP)	dust; liquid concentrate; wettable powder	microbial	III	Toxic to caterpillars only; must be ingested. Derived from a beneficial soil bacterium.
diazinon*	liquid concentrate (25 or 12.5%); ready-to-use spray (0.075%)	organophosphate	III	Broad spectrum. Long residual.
Imidan (phosmet)	wettable powder (12.5%)	organophosphate	III	Broad spectrum.
insecticidal soap (potassium salts of fatty acids)	liquid concentrate; ready-to-use spray		II (concentrate), III (ready-to-use)	Kills aphids, mites, and other soft insects. Must hit pest. No residual activity. Do not apply in hot weather (>85F).
Kelthane (dicofol)	wettable powder (35%); liquid concentrate (42%)	chlorinated hydrocarbon	II	Toxic only to spider mites.
lime sulfur (calcium polysulfides)	liquid concentrate (26-30%)	inorganic	I	Kills San Jose scale and other scale insects. Apply when trees are dormant.
malathion	liquid concentrate (50%)	organophosphate	II, III	Broad spectrum. Short residual. Can cause injury to McIntosh apples.
metaldehyde	bait (3%); liquid concentrate (4%)		III	Toxic only to slugs and snails. Place next to plants not on plants.
methoxychlor (Marlate)	liquid concentrate (25%); wettable powder (50%)	chlorinated hydrocarbon	III	Broad spectrum. The major ingredient in most multi-purpose fruit sprays.
oil (Horticultural Spray Oil, Volck Oil Spray)	liquid concentrate (97-99%)	petroleum oils	III	Kills spider mites, scales, pear psylla. Do not apply within 24 hours of near freezing (<40F). Thorough coverage needed.
permethrin	liquid concentrate (13.3%)	pyrethroid	II	Broad spectrum. Long residual.
pyrethrins (pyrethrum)	liquid concentrate (0.24%); ready-to-use spray (0.012%)	botanical	III	Broad spectrum. Derived from chrysanthemum flowers. Often sold as mix with rotenone.
rotenone	dust (1 or 5%)	botanical	II, III	Broad spectrum. Non-toxic to bees. Derived from roots of a legume plant. Often sold as mix with pyrethrins.
ryania	wettable powder	botanical	III	Toxic to codling moth and oriental fruit moth. Derived from a South American shrub. Often not readily available.
sabadilla	dust	botanical	III	Broad spectrum. Derived from a South American lily. Often not readily available.
Sevin (carbaryl)	liquid concentrate (21, 22, or 27%); dust (2, 5, or 10%); wettable powder (50%); ready-to-use spray (0.1%)	carbamate	III	Broad spectrum. Caution: do not use for 21 days after bloom to prevent fruit drop.
Thiodan (endosulfan)	liquid concentrate (9.9%); dust (3%); wettable powder (50%)	chlorinated hydrocarbon	I (concentrate) III (dust)	Broad spectrum; especially for control of aphids and sucking bugs, and peachtree borer. Long residual.

* diazinon might be unavailable in some retail shops because its manufacturer is phasing it out for home garden use over the years 2001–2005.