

Table 17 – Relative Pesticide Toxicity at Field Rates to Selected Beneficial Species.

Pesticide Trade Name (common name)	Predator Insect Group ¹	<i>Aphidoletes aphidimyza</i>	<i>Stethorus punctum</i>	<i>Amblyseius fallacis</i>	<i>Typhlodromus pyri</i>	<i>Zetzellia mali</i>
INSECTICIDES						
Agri-Mek (abamectin)	no data	no data	++	++	++	++
Ambush (permethrin)	++	+	+++	+++	+++	++
Asana (esfenvalerate)	+++	++	+++	+++	+++	++
Avaunt (indoxacarb)	++	+	+	+	+	+
(Bt) (Agree, Dipel, Javelin, Condor, Xentari, Biobit, Crymax)	0	+	0	+	+	0
Confirm (tebufenozide)	0	+	0	+	+	0
Digon, Dimate (dimethoate)	++	+++	+	+++	+++	no data
Diazinon	++	+++	+	no data	no data	no data
Esteem (pyriproxyfen)	no data	+	++	+	+	no data
Guthion (azinphosmethyl)	++	+++	+	+	+	+
Imidan (phosmet)	+	++	+	+	+	+
Intrepid (methoxyfenozide)	0	0	0	no data	no data	0
Lannate (methomyl)	+++	+++	++	+++	+++	++
Lorsban (chlorpyrifos)	++	no data	+	++	++	++
Provado (imidacloprid)	++	no data	++	+	+	+
Sevin (carbaryl)	++	+++	+++	++	+	++
SpinTor (spinosad)	0	+	0	+	+	0
Supracide (methidathion)	no data	no data	no data	no data	no data	no data
Thiodan (endosulfan)	++	++	++	+	+	no data
Vydate (oxamyl)	++	++	++	+++	+++	+++
MITICIDES						
Acramite (bifenazate)	no data	+	+	++	++	no data
Apollo (clofentezine)	+	+	0	+	+	+
Carzol (formetanate)	++	no data	++	+++	+++	++
Kelthane (dicofol)	+	+	+	++	+++	+
Pyramite (pyridaben) ²	++	no data	++	+++	+	++
Savey (hexythiazox)	0	no data	+	+	+	+
summeroil	++	no data	+	++	++	++
Vendex (hexakis)	+	+	+	+ ³	+ ⁴	+++
FUNGICIDES						
Bayleton (triadimefon)	no data	no data	+	+	+	no data
Captan	0	+	+	+	+	+
Ferbam	no data	no data	no data	no data	no data	no data
(mancozeb) Dithane, Manzate, Penncozeb	0	no data	+	++ ⁵	++ ⁵	+
Nova (myclobutanil)	0	no data	+	+	+	+
Polyram (metiram)	0	no data	+	no data	no data	+
Procure (triflumizole)	no data	no data	no data	no data	no data	no data
Rubigan (fenarimol)	no data	no data	+	+	+	no data
(sulfur) – many brands	no data	no data	+	+	+	no data
Syllit	no data	+	no data	+	+	no data
Thiram	no data	no data	+	+	no data	no data
TopsinM (thiophanate-methyl)	0	+	+	++	+	++
Ziram	0	no data	+	+	no data	+

0 = No impact on population; + = Low impact on population (less than 30% mortality after 48 hours); ++ = Moderate impact on population (between 30% and 70% mortality after 48 hours); +++ = High impact on population (over 70% mortality after 48 hours)

1. Predator Insect Group includes ladybugs (coccinellids), lacewings, syrphid fly larvae, minute pirate bugs, and mullein bugs. See Table 9 for more information on *Aphidoletes aphidimyza*, *Stethorus punctum*, *Amblyseius fallacis*, *Typhlodromus pyri*, and *Zetzellia mali*.

2. Effects dependant on rate

3. Moderate impact on eggs. Low impact on immatures.

4. Suppresses egg laying almost completely and is harmful to immatures.

5. Low impact from sprays made before Bloom. Moderate to High impact from sprays made after Petal Fall.

Adapted from: 2003 *Pest Management Guidelines for Commercial Tree-Fruit Production*, by A.M. Agnello, A.J. Landers, W.W. Turechek, D.A. Rosenberger, T.L. Robinson, J.R. Schupp, J. Carroll, L. Cheng, P.D. Curtis, D.I. Breth and S.A. Hoying. Cornell Cooperative Extension; and 2002-2003 *Tree Fruit Production Guide*, E. Martz, editor. Pennsylvania State University.