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About beneficials

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Resident beneficial organisms (or natural enemies) can enhance control of many pest arthropods, often providing good suppression of many indirect pests (aphids, mites, and leafminers). The best way to conserve these beneficials is to use caution when selecting insecticides and timing applications. Beneficials are often more susceptible to broad-spectrum insecticides (organophosphates, carbamates and pyrethroids) than are the pests they attack. The availability of flowering plants within the orchard can also help conserve beneficials, since the adult stage of many predators and parasites feeds on nectar and pollen.

Learn more about these beneficials

- Generalist predators ([Assassin bugs](#), [Damsel bugs](#), [Minute pirate bugs](#))
- [Parasitoids](#) ([Braconids](#), [Tachinid fly](#))
- [Predatory mites](#) ([Zetzellia mali](#), [Amblyseius fallacis](#), [Agistemus fleschneri](#), [Typhlodromus pyri](#))
- Predators of soft-bodied insects ([Green lacewing](#), [Lady beetles](#), [Syrphid fly](#), [Orange cecido-myiid fly](#))

Additional information

- About [natural enemies](#) (from *Fruit Crop Ecology and Management*)
- [Identifying natural enemies](#) web site
- [Enhancing beneficial insects with native plants](#) web site
- For more monitoring information and evaluation of available pesticides: [Michigan Fruit Management Guide](#)
- [A Practical Guide to Scouting Apple Orchards](#) – a DVD showing how to scout apple orchards.
- [MSU Diagnostic Services](#) for assistance in pest identification.
- [MSU Fruit Crop Advisory Team Alert](#) newsletters for current pest/crop conditions.

This information was developed from [A Pocket Guide for IPM Scouting in Michigan Apples](#) by David Epstein, Larry J. Gut and George W. Sundin. Purchase this in a pocket-sized guide for reference in the orchard from [MSU Extension](#) (publication E-2720).

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