



Galendromus occidentalis

(*Typhlodromus*, *Metaseiulus*)

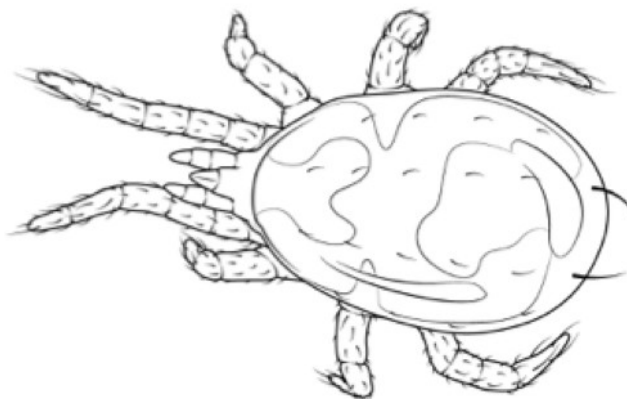
Western Predatory Mite

DESCRIPTION:

G. occidentalis is a primary biological control agent of pest mites on fruit trees, grapes, corn, cotton, ornamentals and strawberries. Adults and eggs are both pear-shaped. Eggs and larvae are almost transparent and difficult to see without a microscope. Larvae have six legs, but adults develop eight legs. Adults are white, but once they start feeding they take on the coloration of their prey, usually red or brown.

TARGET PEST:

Two-spotted spider mites (*Tetranychus urticae*), McDaniel spider mites, yellow spider mites, apple and pear rust mites, Prunus rust mites, blister mites, and European red mites (*Panonychus ulmi*). Not effective on mite eggs.



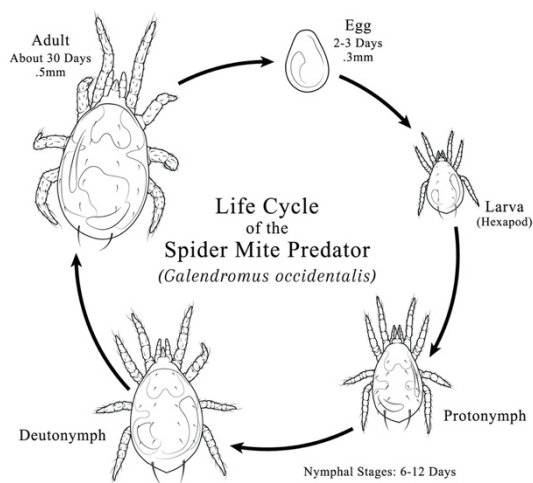
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Galendromus occidentalis

LIFE CYCLE:

A complete lifecycle takes about 30 days, depending on temperature and availability of prey. Females are predominant, usually 2:1 or 3:1. Females lay eggs on flowers, in the opening buds, and on the underside of leaves, and eggs hatch within 1-4 days. Depending on temperature, total development time from egg to adult is 6-12 days. Females live about 30 days and lay about 21 eggs. *G. occidentalis* produces rapidly, and there may be up to 10 generations per year.

At cooler temperatures, *G. occidentalis* goes into diapause. Mated adult females overwinter in the debris beneath plants and trees, or in the crevices of the crops themselves. Some may die during very harsh, cold winters. Emergence begins at first bud in the spring, and *G. occidentalis* disperses, seeking out prey. They hunt along leaf midveins during the day, and over the entire leaf surface near nightfall. Adults eat 1-3 pest mites per day.



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USE IN BIOLOGICAL CONTROL:

G. occidentalis are used to control mites outdoors for crops, orchards, vineyards, nurseries, and indoors for greenhouses, growing rooms, hydroponics, aquaponics, interiorscapes, and container plants. Optimum conditions are 50-115°F (10-46°C) and 30-60% relative humidity. *G. occidentalis* will feed on pollen if mite populations are low.

For more information, Please contact **Sound Horticulture**

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MONITORING TIPS:

About a week after introduction of predators you should begin to see a significant slowing of pest mite leaf damage in new growth.

Predators can be difficult to discern from pest mites because predators take on the coloration of their prey. Predators are slightly larger and move faster than pest mites. Use a 30 X illuminated hand lens to discern the difference between pest mite and predator.

PRODUCT INFORMATION:

G. occidentalis are highly perishable, and should be applied to crops as soon as possible. If storage is necessary, refrigerate at 45-50°F (7-10°C) for up to 5 days.

G. occidentalis is usually shipped from Sound Horticulture in a corn grit carrier. If using at a rate of 2/ sq. ft, it may be helpful to buy additional corn grits from your local grocer and use them to extend the predator supply for application over a larger area. Gently pour predator on carrier corn grits and extension corn grits into a large jar and gently roll to mix. Gently shake predator and carrier onto the foliage of infested crops. For best results, mist the foliage prior to application so carrier will cling. *G. occidentalis* will migrate off carrier immediately and seek out prey.

INTRODUCTION RATES:

Release rates on field crops range from 2,000 to 5,000/acre at the first sign of spider mites. In greenhouses, 2/ sq. ft, or 1 predator per 5 spider mites at the first sign of spider mites. Later releases will require much higher numbers to be effective.

FOR BEST RESULTS:

If possible, *G. occidentalis* should be used before pest mite webbing occurs. Once pest mites are established, a much greater amount of *G. occidentalis* is required to be effective.

USING CHEMICALS:

Pesticide use can not only destroy the *G. occidentalis* population, but it can destroy less harmful prey species, starving the predators. This is an often-overlooked aspect of using even soft pesticides before releasing beneficial mites such as *G. occidentalis*. *G. occidentalis* is highly susceptible to pesticides such as permethrin, methomyl, and esfenvalerate. Avoid using these pesticides at least one week prior and one week after release of the predators.

In addition, many other sprays as well as their “inert” ingredients may have a deleterious effect on these and other beneficial mites. These may include other pesticides, fungicides, and plant growth regulators. Consult Sound Horticulture prior to release of these and other beneficial mites.