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Volume 12 Number 35 October 2023

The Mitey Marigold

French marigolds offer excellent color and can be grown in a wide range of USDA hardiness zones. While French marigolds grow well in warm conditions such as greenhouses, spider mites love these same conditions.

French marigolds (*Tagetes patula*) are a compact annual from Mexico with various flower combinations of red, orange, and yellow. French marigolds can be grown in a variety of USDA climate zones (2-11) but are best suited for warmer months and are well known for their vibrant flower color.

Recently we encountered a group of French Marigolds exhibiting tiny white and yellow spots giving the foliage a stippled or molted appearance (Figs. 1&2). Under further inspection it was determined that twospotted spider mites (*Tetranychus urticae*) caused the damage.

Spider mites use their piercing mouthparts to feed on the sap from the underside of leaves. In severe cases the damage can be confused with drought stress and leaves may abscise from the plant (Fig. 3). One of the telltale signs of spider mite infestations is webbing, however, this may not be observed if populations are low (Figs. 4&5). Generally, once the distinct webbing of a spider mite is observed the population is too late to control for the population and plants should be discarded. Spider mite populations can proliferate quickly under high temperatures in a short amount of time. Marigolds can easily become a food source for spider mites due to their preferred high



Figure 1. Initial signs of a mite infestation is mottled leaf spotting. (Photo: Brian Whipker)

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growing temperatures. These conditions are ideal for a crop of marigolds being grown for fall sales. Ensuring that plants are pest-free before entering is key to preventing problems in other areas of your operation.

Ways to Prevent Spider Mites:

- Remove dead vegetation from benches where spider mites can reside.
- Use high-pressured water to physically remove spider mites if populations are low.
- Remove weeds from the greenhouse to prevent mites from holding over between crops.
- If plants are infected, dipping cuttings in miticide to prevent spread to other parts of your operation¹.
- Scan vegetation regularly and remove problem plants to keep numbers low from the start.

Spider mites can flourish especially in greenhouse settings because there are no natural environmental controls such as high wind or heavy rainfall to knock them off of the foliage. In conditions such as drought or light rainfall, mites can devastate a crop once the population is well established, and in many cases, it is hard to notice them until it is a major issue. In greenhouse conditions, with the addition of supplemental lighting, the additional heat, humidity, and lack of air movement can cause infestations to flourish. Lighting also emits heat that can encourage spider mites to endure over time when even greenhouse conditions may not be entirely favorable to the species.



Figure 2. Mottling resulting from spider mite feeding. (Photo: Brian Whipker)



Figure 3. Damage can be confused with drought stress and leaves may abscise from the plant. (Photo: Brian Whipker)



Figure 4. Spider mite webbing on a bloom. (Photo: Brian Whipker)



Figure 5. Extensive webbing on marigolds due to spider mites. (Photos: Right -Brian Whipker; Left – Patrick Veazie)

Chemical controls are available for spider mites and a variety of options with different modes of action are listed in the [GrowerTalks: Insecticide, Miteicide, and Fungicide guide](#).

Spider mites can be a significant problem for growers once an infestation occurs. Starting with clean plants and utilizing Integrated Pest Management (IPM) strategies to prevent problems from occurring is a grower's best option. However, it can be difficult to prevent spider mites when species such as marigolds provide the optimal environment for spider mite populations.

¹ Dr. JC Chong recently reported excellent results with using a Hexagon dip at eradicating spider mites eggs and nymphs. Unfortunately Hexagon is not active on adults. For additional information, <https://www.growertalks.com/Newsletters/View/?article=3889>

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