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Mites Under Lights

Sweet potato has a wide variety of commercially available cultivars with many uses ranging from ornamentals to those used for human consumption. Sweet potatoes are vegetatively propagated from stock plants primarily in the spring for summer planting and prefer warm climates, unfortunately, spider mites love the same conditions.

Sweetpotato (*Ipomoea batatas* L.) has gained popularity for its wide array of ornamental cultivars for their use in the landscape as well as in hanging baskets. Sweet potatoes grow best in warmer climates (USDA zones 10-12), however, can grow in any climate with 90-100 frost-free days.



Figure 1. The molted appearance on the foliage is the result of spider mite damage on sweet potato foliage as well as the webbing on and between leaves. (Photo: Patrick Veazie)

Recently, we came across a group of sweet potato plants that were exhibiting tiny white and yellow spots giving the foliage a stippled or molted appearance (Fig. 1). Under further inspection it was determined that 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. 2). One of the telltale signs of spider mite infestations is webbing, however, this may not be observed if populations are low (Fig. 3). Spider mite populations can proliferate quickly under high

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temperatures in a short amount of time. Sweet potato mother stock plants can easily become a food source for spider mites due to their preferred high growing temperatures. Ensuring that mother stock plants are pest-free before propagation 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 operation³.*
- ❑ *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 environment 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. In severe cases, mite damage can mimic drought stress from where the mites have fed on the underside of the leaves for a prolonged period. (Photo: Patrick Veazie)



Figure 3. Webbing created by spider mites on sweet potato foliage which commonly occurs when populations are high. (Photo: Patrick Veazie)

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 sweet potatoes provide the optimal environment for spider mite populations.



Photo of spider mites on ornamental sweet potatoes. (Photos: Brian Whipker)

³ JC Chong of Clemson 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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