



Greenhouse Pest Message April 14, 2022

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Iron deficiency is common on spring greenhouse crops that are inefficient in taking up iron including **bacopa, basil, brachycome, calibrachoa, diascia, nemesia, petunia, scaevola, snapdragon** and **vinca**.

Symptoms first start as an interveinal chlorosis, normally starting at the shoot tips, but can often occur throughout the entire plant. Sometimes, the leaves of some Fe deficient plants turn almost white.



Figures 1 & 2: Interveinal chlorosis on petunia (left) and million belles (on right). Photos by L. Pundt

Preventing Fe deficiency can be accomplished by managing pH and using an iron chelate fertilizer. Poor root development (due to root rot disease) or root function (due to warm loving plants growing on cold greenhouse floors) will adversely affect uptake of iron, a mobile element.

Iron is more available to the plant when the pH is below 6.2. So, iron deficiency is most often caused by growing media with a higher pH. The target pH range for crops susceptible to Fe deficiency is 5.5 to 6.0. Most commercial soilless media have pH in this range and the use of an acid-forming fertilizers may be enough to keep the pH in this range.

Sprint 330 is commonly used and contains 10% chelated DTPA iron. It performs best in slightly acid media with a pH of up to 7.5. Sprint 138 is 6% chelated EDDHA iron for media with a pH over 7.0. The company advises not to pre-mix Sprint with pesticide or fertilizer concentrates.

If needed, apply an iron chelate such as Sprint 330 (10% DTPA chelated iron) as a soil drench at the rate of 4-8 oz./100 gal.

Iron chelate can be applied every 3 or 4 weeks if needed. Immediately rinse excess iron off the foliage and flowers because concentrated iron can cause brown or black spots or pitting on the leaves.



Some products such as organic based Verdanta OFE (3% DTPA chelated iron) is applied as a foliar application. Follow labeled rates and instructions.

Never apply iron chelate to marigolds, zonal geraniums, and seed geraniums because they are susceptible to **Fe toxicity** rather than deficiency. To minimize plant-available Fe, keep pH in a higher range and avoiding fertilizing with too much Fe.

For more: How to Prevent Iron Deficiency in Iron Inefficient Greenhouse Crops
<https://ag.umass.edu/greenhouse-floriculture/fact-sheets/how-to-prevent-iron-deficiency-in-iron-inefficient-greenhouse>

Funding provided by USDA NIFA CPPM grant 2021-70006-35582.

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