

**College of Agriculture & Life Sciences****Department of Horticultural  
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# PourThru Guidelines for Geraniums

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Proper nutrition is essential for growing top quality geraniums. Sampling the root substrate for pH and electrical conductivity (EC) with the PourThru extraction method is a quick and simple check of the nutritional status of the crop and can provide immediate clues about a crop's performance before deficiency or toxicity symptoms appear.

Geraniums make a large contribution to the net profit of many greenhouse operations and should be included in a PourThru monitoring program. Geraniums are particularly sensitive to low pH, which can result in iron and/or manganese toxicity

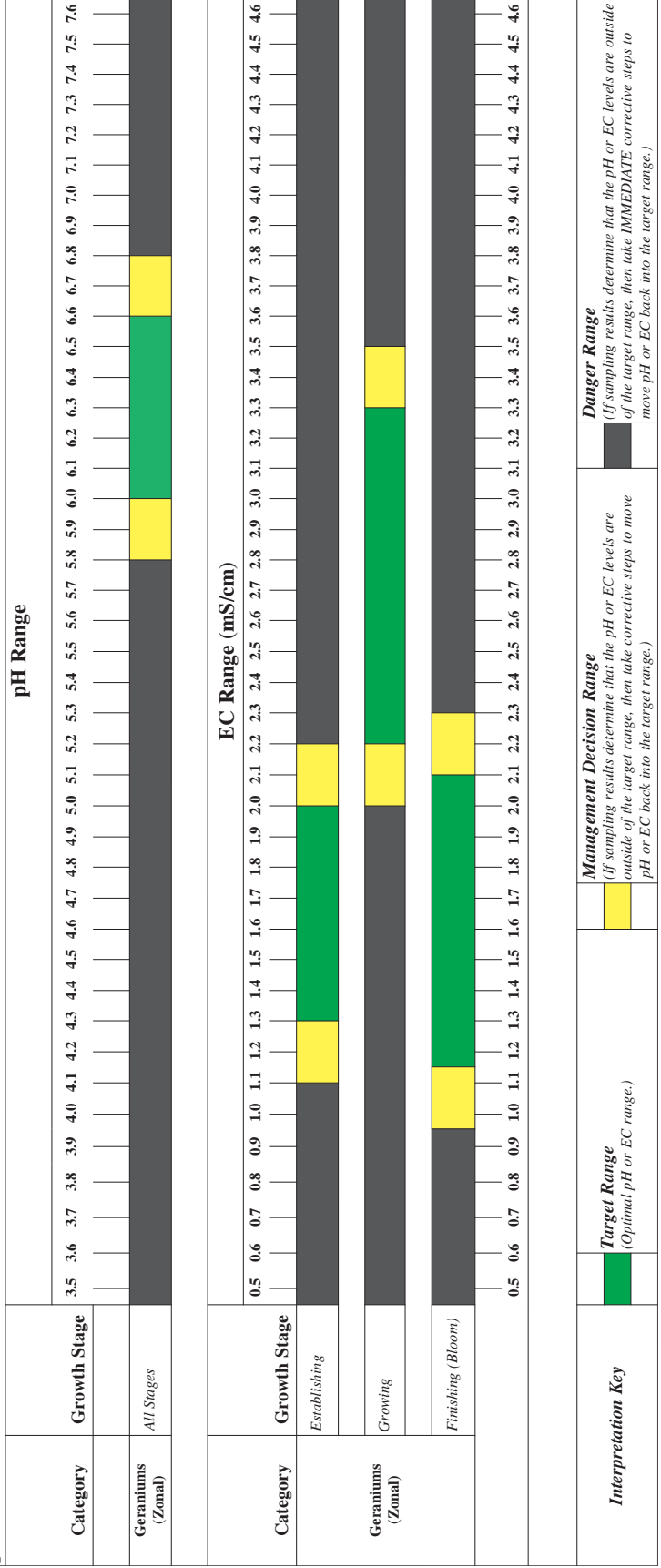
causing lower leaf chlorosis and necrosis.

In contrast, a pH above 6.8 can lead to micronutrient deficiency problems, especially with iron which causes upper leaf chlorosis. Both excessively low and high pH's should be avoided. Routine PourThru sampling will enable growers to detect unfavorable trends before nutritional problems occur. Figure 1 provides pH and EC ranges for geraniums at various developmental stages. Charts for recording pH and EC values are also provided.

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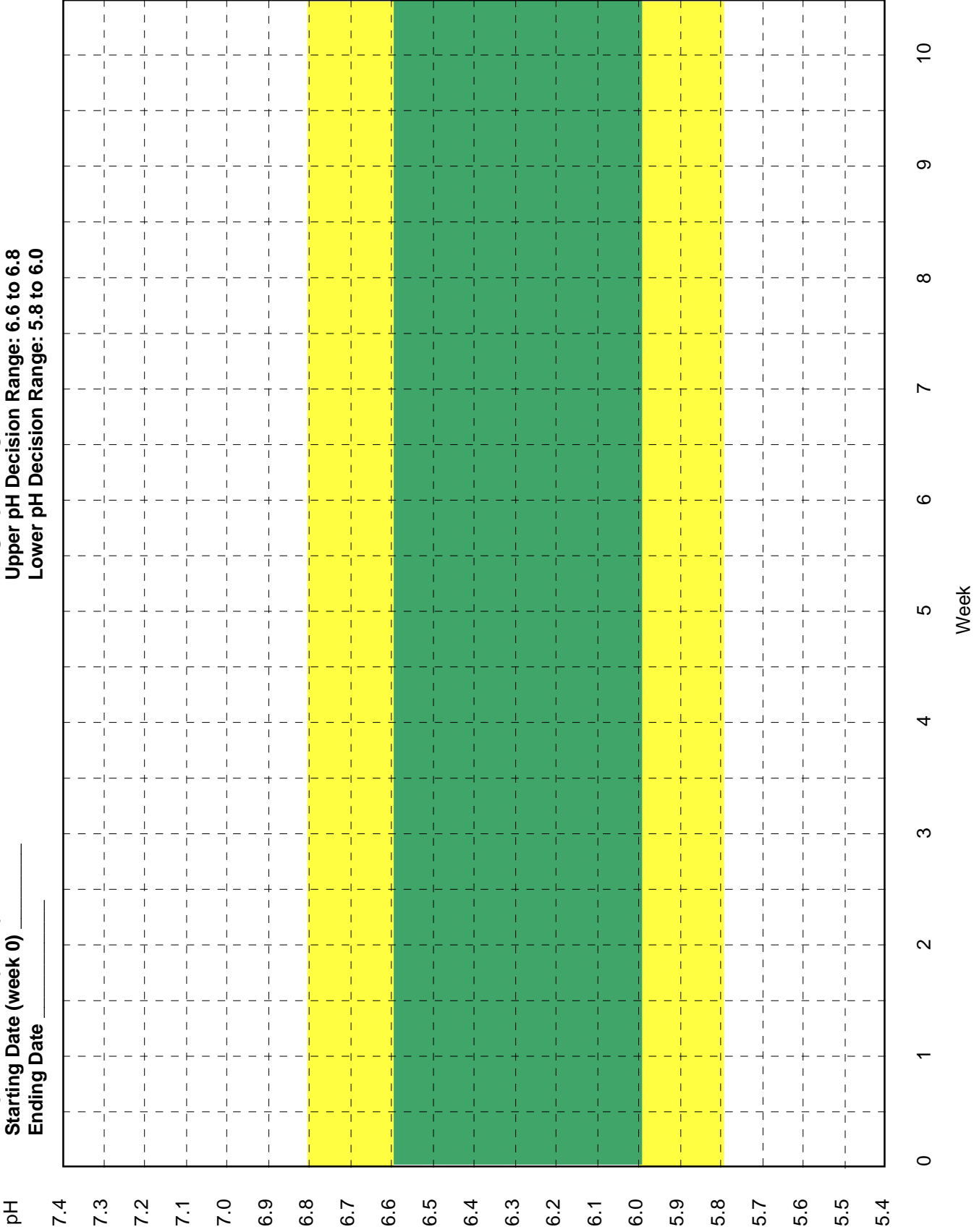
**Figure 1. Suggested Pour-Thru substrate pH and EC ranges for zonal geraniums grown in soilless substrate. These values are guidelines and adjustments should be made based on your growing practices.**



**PourThru pH chart for geraniums.**

**Crop:** Geranium (zonal)  
**Starting Date (week 0)** \_\_\_\_\_  
**Ending Date** \_\_\_\_\_

**Target pH Range: 6.0 to 6.6**  
**Upper pH Decision Range: 6.6 to 6.8**  
**Lower pH Decision Range: 5.8 to 6.0**



**PourThru EC chart for geraniums.**

**Crop:** Geranium (zonal) **Target EC Range:** 2.2 to 3.3 mS/cm  
**Starting Date (week 0)** \_\_\_\_\_ **Upper EC Decision Range:** 3.3 to 3.5 mS/cm  
**Ending Date** \_\_\_\_\_ **Lower EC Decision Range:** 2.0 to 2.2 mS/cm

