

**Title** Effect of thidiazuron and gibberellic acid on leaf yellowing of cut stock flowers  
**Author** Antonio Ferrante, Anna Mensuali-Sodi and Giovanni Serra  
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#### **Abstract**

Plant hormones such as cytokinins and gibberellins are able to inhibit leaf yellowing in different species of cut flowers and potted plants. These hormones can be used alone or in combination among them for preserving chlorophyll in floriculture items. In the present study thidiazuron was tested alone or combined with GA<sub>3</sub> for delaying leaf yellowing of cut stock flowers during vase life. Cut flowers were placed in a controlled environment and treated for 24 hours with the following solutions: distilled water (control) or solutions containing 5, 10 µM thidiazuron (TDZ), 0.5 mM gibberellic acid (GA<sub>3</sub>), or a combination of 0.5 mM GA<sub>3</sub> with 5 µM TDZ. The effect of treatments was evaluated by measuring chlorophyll content, ethylene production, leaf gas exchanges and chlorophyll a fluorescence. Results showed that TDZ was able to delay leaf yellowing in light during whole experimental period (30 days). The effect of TDZ on dark stored flowers was less effective, and also delayed chlorophyll losses for 10–12 days. TDZ and GA<sub>3</sub> combination did not show any synergistic nor beneficial effect. Gas exchange values such as net photosynthesis, vapour pressure deficit, stomatal conductance and water use efficiency were higher in the TDZ only treatment.

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