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ISHS Acta Horticulturae 396: [Hydroponics and Transplant Production](#)

IMPROVEMENT OF HYDROPONIC CULTURE MEDIUM BY ADDING CALCIUM-ZEOLITE

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Abstract:

In order to add the buffering effect of calcium (Ca) ions to hydroponic solution, Ca-zeolite was introduced to the solution. Tomato plants (*Lycopersicon esculentum* Mill.) were grown in hydroponic solution containing excess amounts of copper ions. Even though excess copper ions inhibited the growth of tomato plants, when Ca-zeolite was added to the hydroponic solution, the recovery of growth was observed. Thus, it was demonstrated that Ca-zeolite could be used as a buffering agent when harmful ions are dissolved in the hydroponic solution. In order to test more practical applications under hydroponic conditions, the concentration of the hydroponic solution was increased until blossom-end rot was induced in tomato fruits. When Ca-zeolite was added to the solution, blossom-end rot could be reduced drastically. It was shown that Ca-zeolite added to hydroponic solution could be used to avoid the onset of physiological disorders associated with salt stress.

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