

Title Pre-harvest calcium sulfate applications affect vase life and severity of gray mold in cut roses
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Abstract

Gray mold, caused by *Botrytis cinerea* Pers. Fr., is a major disease in roses. The effect of spraying rose (Cultivar 'Kiss') buds with calcium sulfate on the intensity of gray mold was evaluated. Calcium sulfate was sprayed on the buds at different schedules and concentrations before harvest. Thereafter, the buds were harvested and either inoculated or not with *B. cinerea*. The treatments reduced both the progress and severity of gray mold and increased vase life of the flowers. Good results were achieved with 10 and 20 mM calcium sulfate, applied 24 h before harvest. In the uninoculated assay, the maximum percentages of reduction of the area under the disease progress curve (AUDPC) and of severity were 86% and 86%, respectively, and in the inoculated assay, 68% and 76%, respectively. Vase life of the flowers was increased at least 30% in the assay without inoculation and 20% in the assay with inoculation. Spraying roses with calcium sulfate at 10 mM or 20 mM one day before harvest is recommended to control gray mold after harvest.