**Title** $GA_{4+7}$ plus BA enhances postproduction quality in pot tulips

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## Abstract

Previously we reported that postproduction quality of pot 'Seadov' tulip (*Tulipa gesneriana*) was significantly increased by $GA_{4+7}$ plus BA in a manner dependent on the concentration and stage of flower development at application. In these experiments, we extended the survey to 20 tulip cultivars to further evaluate the effects of $GA_{4+7}$ plus BA sprays for enhancing postproduction flower and leaf quality. The senescence symptom of the cultivars fell into three categories: wilting, wilting-abscission (abscission shortly after tepal wilting) and abscission (abscission without wilting), with the majority of the cultivars belonging to the wilting and wilting-abscission categories. Pots bearing six plants were sprayed with a range of $GA_{4+7}$ plus BA concentrations at marketable stage and placed in a simulated consumer environment (SCE). $GA_{4+7}$ plus BA significantly enhanced individual flower and postproduction longevity, but the effect was dependent upon the senescence category of the cultivar. In general, $GA_{4+7}$ plus BA increased individual flower and postproduction longevity of wilting-type cultivars at concentrations above 10 mg $L^{-1}$, while longevity of wilting-abscission-type cultivars was only enhanced by 50 mg $L^{-1}$. Abscission-type cultivars were not affected by any concentrations of $GA_{4+7}$ plus BA. Regardless of floral senescence category, leaf yellowing was significantly reduced by $GA_{4+7}$ plus BA sprays in those cultivars showing postproduction leaf yellowing. $GA_{4+7}$ plus BA did not induce leaf and stem elongation in most cultivars. Only 'Yellow Baby', the shortest cultivar, showed elongation of stem and leaf by $GA_{4+7}$ plus BA at concentrations above 25 mg $L^{-1}$. Spray applications of $GA_{4+7}$ plus BA can be useful to enhance flower and leaf quality in pot tulips.