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EFFECTIVENESS, AMMONIUM IMPACT AND POTASSIUM ADEQUACY OF SOYBEAN-BASE LIQUID FERTILIZER ON BEDDING PLANTS

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□ *A greenhouse study was conducted to compare the effectiveness of a soybean-base liquid fertilizer [Daniels Plant Food; 10 nitrogen (N):1.8 phosphorus (P): 2.5 potassium (K)] to two inorganic, greenhouse-type formulations containing 25 and 75% of nitrogen in the ammoniacal form on four bedding plant species (pansy, petunia, salvia, and vinca). Flowering was unaffected, foliage was deeper green, and substrate electrical conductivity was lower when fertilized with the soybean-base fertilizer. Plants were desirably more compact (lighter with less leaf area) when fertilized with the soybean-base and 75% ammoniacal fertilizer. While ammonium toxicity did not develop in any treatments at the standard lime rate, it occurred at low lime in all species with 75% ammoniacal and only lightly in pansy with soybean-base fertilizer, in spite of its 81% reduced nitrogen. Soybean fertilizer caused less acidification than 75% ammoniacal fertilizer. The potassium content of the soybean-base fertilizer was adequate to meet the requirements of the four species tested.*

Keywords: pansy, petunia, salvia, vinca, floriculture, ammonium toxicity, potassium, substrate pH, electrical conductivity

INTRODUCTION

A soybean-base (SB), complete liquid fertilizer, produced by D P Foods, LLC (Sherman, TX, USA), is available in one grade, 10 nitrogen (N):1.8 phosphorus (P): 2.5 potassium (K). Yet this fertilizer has for several years been applied to the full range of greenhouse crops. Eighty-one percent of the N is in reduced forms [37.0% ammonium (NH_4^+), 36.5% urea, and

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