

Abstract

This study aimed at investigating effects of auxin spray on sucker development in roses. The rationale was to develop technology for prevention or minimization of sucker development in production of commercially acceptable rose cut flowers. Different doses (0, 15, 30, 45 and 60 mg/L) of auxin, naphthalene acetic acid (NAA) (Anatone®, a commercial auxin) and a hand desuckered positive control were applied in commercial greenhouse (Buds and Blooms Ltd - Nakuru County of Kenya) of roses grown on substrate (pumice). Treatments were laid out in a randomized complete block design (RCBD), with the location within the greenhouse as the blocking factor. Data were subjected to analysis of variance (ANOVA) and means were separated using Tukey's Honestly Significant Difference (HSD). The interaction effect of auxin dose \times spray interval significantly ($P < 0.001$) influenced the number and growth rate of suckers in a shoot. All auxin doses completely prevented sucker development on rose shoots, from budbreak to harvestable stem stage of shoot growth. However, auxin dose \times spray interval significantly influenced the occurrence of leaf epinasty, a physiological condition with negative impact on cut shoot foliage quality. Leaf epinasty affected: 22.5%, and 5% of the fully grown rose stems treated with 15 mg/L NAA with spray interval of 1 d, and 6 d, respectively. Occurrence of bullheads, another physiological condition was found to be significantly influenced by auxin dose. This desuckering technology is expected to lower rose production costs. Modes of action are discussed.