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Influence of GA₃ on germination and growth of acid lime cv. KAGZILIME seed (*Citrus aurantifolia* Swingle) under field as well as net house conditions

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ABSTRACT : The investigation was carried out during the year 2011-12 at the Horticultural Research Farm, Department of Horticulture, B.A. College of Agriculture, Anand Agricultural University, Anand to assess the role of different concentration of GA₃ and conditions on seed germination, vegetative growth of acid lime cv. KAGZILIME. The experiment was laid out in Factorial Romized Block Design with twelve treatments and four replications. The fresh, moderate uniform in size and viable seeds of Kagzilime were treated (soaked) with six different levels of GA₃ for 12 hours and sown in prepared raised seed bed in the field and net house condition. The results revealed that the seeds treated with 500 mg/l GA₃ took significantly less time for 75 per cent germination (29.25 days) as well as recorded maximum germination (83.50 %), plant height (24.33 cm), number of leaves (30.03), length of seedling (36.48 cm), thickness of primary roots (2.07 mm), girth of seedling at top (1.01 cm), middle (1.00 cm) and bottom (1.14 cm), fresh weight of seedling (20.81 g), dry weight of seedling (11.58 g), total leaf area of seedling (8.28 cm²) as well as survival (74.45 %) at 120 DAS, respectively as compared to rest of the treatments. The results also indicated that the seeds sown under the net house conditions took significantly less time for 75 per cent germination (32.58 days) as well as recorded maximum germination (79.04 %), plant height (22.00 cm), number of leaves (26.50), length of seedling (34.96), thickness of primary roots (2.00 mm), girth of seedling at top (0.98 cm), middle (1.09 cm) and bottom (1.13 cm), fresh weight of seedling (18.92 g), dry weight of seedling (10.07 g), total leaf area of seedling (7.95 cm²) as well as survival (71.38 %) at 120 DAS, respectively as compared to open field condition (C₁). In case of interaction between levels of GA₃ and conditions, significantly the maximum number of leaves (11.75 at 30 DAS), thickness of primary roots (2.26 mm at 120 DAS), fresh weight of seedling (15.70 g at 90 DAS), dry weight of seedling (5.53 g at 90 DAS) and survival percentage of seedling (80.01% at 120 DAS) recorded under the treatment G₅C₂ (GA₃ 500 mg/l under net house conditions).

KEY WORDS : GA₃, Seed germination, Field, Net house condition, Kagzilime

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