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| **ISHS Acta Horticulturae 1113:** **XXIX International Horticultural Congress on Horticulture: Sustaining Lives, Livelihoods and Landscapes (IHC2014): International Symposium on Micropropagation and In Vitro Techniques****Organogenesis inhibition of strawberry, cultivar 'Festival', by the kanamycin antibiotic** |

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| **Abstract:** Although the success of strawberry genetic transformation by *Agrobacterium* has been reported, this is greatly influenced by genotype and dependent of an efficient method to select and regenerate the transformed plants. The selection of transformants by the aminoglycoside antibiotic resistance, conferred by the *NPTII* gene, has caused problems such as “escapes” from shoot regeneration, at low concentrations, or phytotoxicity and chimeric shoots, at high concentrations. However, for strawberry transformation, the main form of selection is via the *NPTII* gene, mainly using the kanamycin antibiotic. Thereby, the aim of this study was to test different concentrations of the antibiotic kanamycin added to the regeneration medium of leaf explants from strawberry 'Festival', to establish the lowest effective dose capable of inhibiting regeneration of “escape” plants. Leaf explants (1 cm2) were obtained from in vitro plants, grown from seeds, of the strawberry 'Festival' and placed in petri dishes containing regeneration medium. The regeneration medium consisted of MS basal medium + TDZ at 2.5 mg L-1 + IBA at 0.1 mg L-1 with kanamycin at 0, 2, 4, 6, 8 and 10 mg L-1. The plates were incubated in a growth chamber with a 16-h photoperiod and temperature of 25±2°C. The experiment was conducted in a completely randomized design with 6 treatments consisting of 5 replicates (petri dishes). After 45 days, callus presence, bud and shoots number were assessed. Kanamycin at 6 mg L-1 completely inhibited the capacity of shoot regeneration, without callus formation, buds or shoots regeneration on the explants. |