

Title	Production Of Triploid Seedling Progenies From Sweet And Sour Calamondin (<i>xCitrofortunella mitis</i> Ingram & Moore) By Chemical Applications
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ABSTRACT

In the world of citrus markets and considering consumers' preferences, seedless citrus varieties have a distinct commercial advantage. Seedless cultivars (triploid cultivars) can be produced through somatic polyploidization. This study, which was conducted at the Pomology Division in Maejo University, involved treatments consisting of 0, 0.01, 0.03, 0.05, and 0.07% applications of colchicine and trifluralin to meristematic buds of sweet and sour calamondin. Statistically significant results were found in stomatal guard cell length and width in the colchicine and stomatal guard cell length from trifluralin treatments in sweet calamondin while in sour calamondin, statistically significant difference was revealed in shoot length and leaf thickness from colchicine treatment and in stomatal numbers from trifluralin treatment. However, no significant differences were found in the shoot length, leaf number, thickness and area, chlorophyll content, and stomatal number from colchicine and trifluralin treatments and stomatal guard cell width from trifluralin treatment in sweet calamondin. Leaf number and area, chlorophyll content, stomatal guard cell length and width from colchicine and trifluralin treatments, stomatal numbers from the colchicine treatment and shoots length from the trifluralin treatment in sour calamondin also revealed no significant difference. Furthermore, comparison between sweet and sour calamondin after chemical application of leaf thickness, chlorophyll content and stomatal number and length, revealed highly significant difference while shoot length, leaf number and area, and stomatal width showed no significant differences. In addition, 34.38% of seedlings found in embryos, showed 0.33% to be triploid seedlings, and the rest remained diploid. Two seedlings from 0.03% and one seedling from 0.05% concentration of colchicine treatment successfully produced triploid seedlings in sweet calamondin. On the other

hand, triploid seedlings were not found in sour calamondin and other concentrations in observed seedlings but vegetative and reproductive growth differences were found among all the treatments. However, colchicine application was effective in triploid seedling production but in order to determine the exact number of ploidy levels, all embryo germination should be necessary.

Keywords: colchicine, trifluralin, chromosomes, polyploidy, sweet and sour calamondin.