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Improvement of protocol for *in vitro* micro-grafting of sweet orange (*Citrus sinensis*) species for Sri Lanka

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Suitability of three types of grafting methods; 'V' shaped cut, side cut (patch graft) and inverted 'T' cut in the root stocks and two media; MS medium and Albert solution was tested for micro grafting of sweet orange (*Citrus sinensis*). Further, suitability of four types of rootstocks; rough lemon (*Citrus jambheri* L), sour orange (*Citrus aurantium*), wood apple (*Limonia acidissima*) and nasnaran (*Citrus madurensis*) was tested for micro grafting of sweet orange scions. Results showed the highest rate of success (50 %) with the grafting method with a 'V' shaped cut. This method was practically easy and more beneficial for post grafting activities and monitoring the growth of scion when compared to those with the other two methods. MS medium was more suitable for micro grafting as it significantly showed a higher rate of success (73%) over Albert solution (25%)($P<0.05$). Root stocks of rough lemon and sour orange significantly showed the highest and higher survival rates (75% and 41.67%) respectively ($P<0.05$). Thus, these results clearly indicated their suitability for micro grafting programs of sweet orange. Root stocks of wood apple and nasnaran showed poor utility for micro grafting of sweet orange.

Keywords: Citrus, Micrografting, Protocol, Scion, Root stock