

Abstract

Lack of adequate, healthy plants can hamper production of passion fruits (*Passiflora edulis* Sims.). Seed propagation results in undesirable variability, inadequate and seasonal supply. This research aimed at rapid generation of *P. edulis* plants through modified ex vitro rooting techniques. Yellow (*P. edulis* var. *flavicarpa*) and purple (*P. edulis* var. *edulis*) passion fruit shoot tops were proliferated in vitro to stage II shoots, half of which were rooted ex vitro and the other half were conventionally rooted in vitro. The design was completely randomized for each variety. Plantlets were assessed after 30 days. Data were analyzed using the MSTAT programme. After proliferating yellow passion fruit on a medium containing 22.2 μM 6-benzylaminopurine (BAP), its rooting ex vitro was significantly better (96% rooting, three roots per shoot, 92% survival) than rooting in vitro (62% rooting, one root per shoot on 24.5 μM indole-3-butyric acid medium, 50% survival). Purple passion fruit proliferated satisfactorily only on a medium containing both 22.2 μM BAP and 11.6 μM gibberellic acid 3. Like difficult proliferation, and compared to yellow passion fruit, its rooting and survival also proved difficult and poor (47% rooting, one root per shoot on 21.5 μM naphthalene acetic acid medium in vitro, 32% survival) and (66% rooting, two roots per shoot ex vitro, 60% survival). Thus, the various passion fruit varieties have different requirements for micropropagation. The key finding was that ex vitro rooting is possible and significantly better than in vitro rooting of passion fruit shoots.