TWO INOCULATED METHODS OF IBA TO PROMOTE ROOTING ON PEACH HYBRID ROOTSTOCK (*Prunus persica x P. amygdalus*) VITROPLANTS

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Introduction. Plant hormones are the best way to promote rooting on plant micropropagation. Auxins as indole butyric acid (IBA), indoleacetic acid (IAA) and naphthaleneacetic acid (ANA) are the most common hormones used for that. The way to supply the hormones to the plant it seem to be important to promote the plant response to root. The effectiveness of auxins in promoting adventitious rooting is a well-established fact (Hartmann et al., 2001), with similar results found in *in vitro* rooted plantlets of a rootstock of cherry (Wilkins and Dodds, 1982; Hammatt, 1994; Lacona et al., 2003). Exogenous auxin added into the medium often solves the problem of difficult-to-root woody species. (Mato and Vieitez, 1986).

In the present study we determine the degree of rooting explants using single or mixtures of root growth-inducing hormones

Methods. Healthy plantlets of about 25 mm in length of Gx15N rootstock, 21 days proliferated on multiplication media formulated by macro/micro elements of full-strength Quorin-Lepoivre (1977) macro salts and Murashige and Skoog (1962) micro salt 100%; 0.3 ppm of BAP, 0.03 ppm GA3 and 0.05 ppm of IBA; 30 g L^{-1} sucrose and organics. The essay were conducted as follow; IBA 2.4 µM added into the media; full strength medium without hormones and the explants precultured for 48 h at 9.84 µM IBA; and, 2.46 µM IBA plus 2.85 µM IAA plus 2.68 µM NAA in the media.. The pH was adjusted to 5.6; plus 7.2g of agar Gellidium (Phytotech®), prior to autoclaving. Explants were grown at 24°C under 16/8-h photoperiod. Statistical model included one replication in a completely randomized experimental design. Parameters evaluated were root number, root length and stem diameter.

Results. We observed that IBA treatment exposed in high concentration, 9.84 µM prior to locate in culture media without hormone, was the best response to root the Gx15N rootstocks, in root number, and stem sickness; meanwhile root length shown no statistical differences in that treatment and these in which is combine with another auxins**,** like NAA and IAA. The figure 1 illustrate the long, white and healthy roots, appeared at the first 5 days. Those appeared after 15 day were discarded.

Fig.1 IBA applied 48 hours after planting in high concentration was the best for length and number of roots.

Table 1 show the nonparametrics Kruskal-Wallis test in which the high concentration expose of IBA on the plantlets, where the best treatment for root response.

Table 1. Treatment with 9.84 µM, was the best treatment for root response.

IBA TREATMENT	STEM STICKNESS	ROOT NUMBER	ROOT LENGHT
TI 2.4µM (15days)	0.8	2	0.2
TII 9.84 µM (2 days)	1.2*	5*	0.9*
TIII (2.46 µM plus (IAA + NAA)	0.9	3	0.5*

Conclusions. The results in this work shows that treatment with 9.84 µM of IBA favored the better way to rooting of the explants in stem stickness and root number, and for root length it would therefore be advisable to further evaluation its effect on in vitro propagation of this crop.

References:

Wilkins, C.P., Dodds, J.H., 1982. Plant Growth Regul. 1, 209–216.
Hammatt, N., 1994. Plant Growth Regul. 14, 127–132.
Lacona, C., Muleo, R., Loreti, F., 2003. Italus Hortus 10 (4), 183–185.
Murashige, T., Skoog, F., 1962. Physiol. Plant. 15, 473–497
Mato, M.C., Vieitez, A.M., 1986. Physiol. Plant. 66, 491–494