

## SUMMARY

### **In vitro preservation of *Guarianthe skinneri* (Bateman (Dressler and E.W. Higgins)) and *Stanhopea tigrina* (Bateman ex Lindl.)**

In Mexico, there are species of orchids that are threatened or at risk of extinction, due to their overexploitation and fragmentation of their habitat. *Guarianthe skinneri* (Bateman (Dressler and E.W. Higgins)) and *Stanhopea tigrina* (Bateman ex Lindl.) are listed as threatened species in the Official Mexican Standard NOM-059-SEMARNAT-2010. Biotechnology tools as the plant tissue culture gives the opportunity to conserve germplasm *in vitro* under controlled conditions. For this reason, the objective of this study was to establish an *in vitro* (medium-term) conservation protocol for *G. skinneri* and *S. tigrina*. For this purpose, Abscisic acid (ABA), Paclobutrazol (PBZ) and Ancymidol (ACD), in concentrations of 0.5, 1.0 and 2.0 mg L<sup>-1</sup> were evaluated, in addition with three concentrations (10, 20 and 30 g L<sup>-1</sup>) of polyethylene glycol (8000) using Murashige and Skoog media (MS). Height, number of outbreaks, number of roots and survival and porcentaje of plantlets were evaluated. Regeneration of the conserved material was performed using MS medium added with 2 mg L<sup>-1</sup> of 6-Benzylaminopurine (BAP). The conservation results showed a greater reduction of the evaluated variables. For this reason 1.5 mg L<sup>-1</sup> of PBZ or 0.5 mg L<sup>-1</sup> of ABA can be used in the *in vitro* conservation of *G. skinneri*. While 2 mg L<sup>-1</sup> of ABA should be used for the *in vitro* preservation of *S. tigrina*. Outbreak regeneration was achieved in the two species evaluated when 2 mg L<sup>-1</sup> of BAP was added to the culture medium. For *G. skinneri*, the highest number of shoots per explant 5.4 was observed, while 3.2 shoots per explant were observed in *S. tigrina*. The results of this study may contribute to conservation works carried out on these species of ornamental importance.

Key words: Conservation, Minimum growth, Ancimidol, Polyethylene glycol, In vitro regeneration.