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# STUDY ON USE OF SILVER NANOPARTICLES IN PHALAENOPSIS ORCHID (*Phalaenopsis Sp.*) TISSUE CULTURE

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## SUMMARY

In this study, silver nanoparticles (NS) were not only used for sterilization of flower stalks of phalaenopsis orchid, but also added to the *in vitro* culture medium. The results identified that: (i) 125 ppm of silvernano solution was the best treatment in 45 minutes for sterilization the flower stalks of phalaenopsis orchid explants that made 72.13% samples clean and survival; (ii) 27.56% of *in vitro* leaf piece of phalaenopsis orchid explants formed protocorm-like body on the medium supplemented with 4 ppm silvernano; (iii) The optimal medium for formation of shoots from the PLB of phalaenopsis orchid was culture medium containing 4 ppm of silvernano, the rate of shoot formation was 92.53%, shoot of the coefficient was 2.97 times and shoot height was 0.87 cm; (iv) On the medium supplemented with 2 - 4 ppm silvernano, the rate of shoot formation from *in vitro* shoot was from 60.00 to 63.33%, shoot of the coefficient was from 233 to 237 times.

**Keywords:** Flower stalks, phalaenopsis orchid, protocorm-like body, silvernano.

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