

The Use of Starch as Gelling Agent for the In Vitro Culture of some Horticultural Species

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SUMMARY

At the Fruit Research Station of Cluj starch was tested as a gelling agent in the in vitro cultures of various horticultural species, as an alternative to the use of agar (Mbanaso, 2008). The nutritive medium was Murashige & Skoog 1962 (MS) with 0.5 mg/l BAP and 75 g/l wheat starch. In *Stevia* and *Exacum* the explants consisted of shoot fragments with 2 nodes, in the rose and *Rubus* 2 cm long microcuttings were used, in *Haworthia cymbiformis* plantlets (propagules) were used, whereas in *Saintpaulia* and *Begonia* shoot and bud clusters of about 1 cm in diameter were used. The culture cycle was of 2 months. The multiplication rates (Tab. 1) were about 30 % lower than on the media gelled with agar.

Tab. 1

The results of multiplication on media gelled with starch

Species	Initial no. Of inoculi	No. of resulted inoculi	Multiplication rate
<i>Begonia boweri</i> 'Tiger'	5	23	4.6
<i>Saintpaulia ionantha</i>	7	36	5.14
<i>H. cymbiformis</i>	5	42	8.4
<i>Exacum affine</i>	5	204	40.8
<i>Rosa</i> , cv Cristiana	7	85	12.14
<i>Rubus fruticosus</i>	7	120	17.14
<i>Stevia rebaudiana</i>	5	236	47.2

Fig. 1. Cultures on media gelled with starch: a) *Begonia*, b) *Saintpaulia*, c) *Rubus*, d) *Stevia*

Keywords: gelling agent, agar, nutritive medium, microcutting, multiplication.

REFERENCES

- Mbanaso, E.N.A. (2008). Effect of multiple subcultures on *Musa* shoots derived from cassava starch-gelled multiplication medium during micropropagation. African Journal of Biotechnology Vol. 7 (24): 4491-4494, 17 December, ISSN 1684-5315.