

6th Global Summit on Plant Science

October 29-30, 2018 | Valencia, Spain

Effect of vitamins on improving morphogenic competence in *Cuminum cyminum* L. cultures

Smita Purohit
The IIS University, India

Cuminum cyminum L. is an important seed spice belonging to family Apiaceae. Production of cummin is limited due to limited genetic diversity and several biotic stresses. Hence, the present study aims at improving the regeneration of cummin in *in vitro* cultures. A regeneration medium was standardized comprising of MS supplemented with kinetin (0.5 mg/l). Effect of thiamine was studied on the morphogenic competence of the *in vitro* cultures. The levels of thiamine in the induction as well as proliferation medium highly influenced the shoot regeneration. Highest number of shoot buds per explant was obtained when the concentration of thiamine was twofold the normal MS level at both induction as well as proliferation stages. Shoots upto 2 cm or more in length were excised and inoculated on rooting medium i.e., MS medium supplemented with 0.5 mg/l indole-3-butyric acid (IBA). Rooted plantlets were transferred to field conditions.

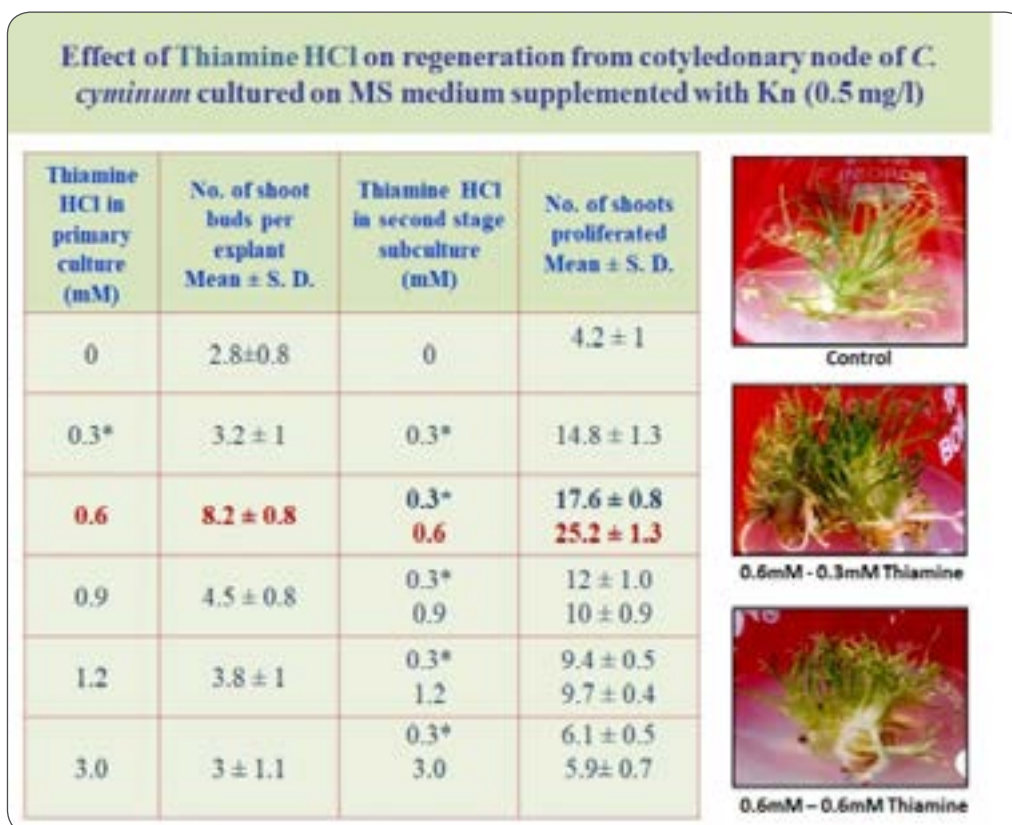


Figure 1: Effect of thiamine HCl on regeneration from cotyledonary node of *C. cyminum* cultured on MS medium supplemented with Kn (0.5 mg/l)

Recent Publications

- Purohit S and Agarwal M (2017) Mineral manipulation and Antioxidative studies in *Carnation - Dianthus caryophyllus* L. International Journal of Crop Science and Technology 3:1-8.

6th Global Summit on Plant Science

October 29-30, 2018 | Valencia, Spain

2. Yadav A, Joshi A, Kothari S L, Kachhwaha S and Purohit S (2017) Medicinal, nutritional and industrial applications of *Salvia* species: A revisit. *International Journal of Pharmaceutical Science Review & Research* 43(2):27-37
3. Agarwal M and Purohit S (2013) Overcoming hyperhydricity and profiling the affected proteins in micropropagated carnation. *IIS University Journal of Science and Technology* 2(1):32-37.
4. Agarwal M and Purohit S (2013) Changes in antioxidant enzymes activity during *in vitro* morphogenesis of carnation and the effect of antioxidants on plant regeneration. *World Journal of Sciences and Technology* 2(7):87-92
5. Purohit S and Kothari S L (2007) Direct somatic Embryogenesis from cotyledon and cotyledonary node explants in Bishop's weed- *Trachyspermum ammi* (L.) Sprague. *In vitro cellular & developmental biology- Plant* 43(2):154-158.

Biography

Smita Purohit, Associate Professor & Former Head, Department of Botany, The IIS University, Jaipur has her expertise in plant tissue culture, stress physiology, molecular biology, mineral manipulation and phytochemical studies. She has worked on various plant systems like *Cuminum cyminum*, *Dianthus caryophyllus*, *Cissus quadrangularis*, *Salvia hispanica* to name a few. She has also authored books in the field of Genetics and Plant Breeding and has supervised few doctoral and many MPhil candidates and has published many research papers in national and international journals of repute.

smita.purohit@gmail.com

Notes: