



Sixth International Symposium on In Vitro Culture and Horticultural Breeding

2020 Vision
for in vitro horticultural breeding

24-28 August 2008
Brisbane, Queensland, AUSTRALIA

- Invitation
- Symposium Theme
- Invited Speakers
- Business Program
- Paper Submission
- Social Program & Tours
- Sponsorship & Exhibition
- Registration
- Brisbane, Australia
- Venue
- Accommodation
- Travel
- General Information
- Key Dates
- Contact Us

Business Program

Please refer to: [Keynote Speaker Abstracts](#)

Key downloads:

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[List of Oral Abstracts](#)
[Preliminary Poster Program](#)
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Maryam Jafarkhani Kermani
Agricultural Biotechnology Research Institute of Iran

A. Bagheri and Zeinab Ghayoor K.
Ferdowsi University of Mashhad

Investigating the in-vitro growth inhibition of oryzalin treated Gerbera jamesonii

Some herbicide agents like oryzalin are widely used for in vitro polyploidization because of their depolymerization effects on microtubules, which usually direct the polar distribution of sub-cellular components. These herbicides hinder plant growth by inhibiting cell division and elongation. To determine the effect of oryzalin on the in vitro growth of gerbera plantlets, an experiment on the cultivar "Red explosion" with five concentration of oryzalin (0, 30, 60, 120 and 240 μ M) in liquid medium and three exposure periods (12, 24 and 48 hours) was established. After these treatments, plantlets were directed to solid Murashigue and Skoog media with three concentration of kinetin (4, 6 and 8 mgL⁻¹). Number of new leaves produced, and fresh mass accumulation of cultured plantlets were used to determine the growth inhibition effects of oryzalin. The lowest number of new leaves were produced on the treatment of 120 μ M oryzalin for 24h on medium containing 4 mgL⁻¹ kinetin whereas minimum fresh weight was obtained on the treatment of 240 μ M oryzalin for 48h on medium containing 4 mgL⁻¹ kinetin.