In vitro propagation and organogenesis of Lilium ‘Prato’

Hany El-Naggar\textsuperscript{1*}, Amira Osman\textsuperscript{2} and Eman Sewedan\textsuperscript{2}

\textsuperscript{1}Department of Floriculture, Faculty of Agriculture, Alexandria University, Egypt.

\textsuperscript{2}Department of Horticulture, Faculty of Agriculture, Damanhour University, Egypt.

Abstract

Lilium consists of more than 80 species native to the Northern Hemisphere. It is widely used as cut flowers, flowering potted and garden plants. Since Lilium in vitro production, as an alternative to the conventional vegetative propagation methods is becoming an important way to increase shoot proliferation rates; therefore, the purpose of this study was to establish a protocol for in vitro production of Lilium Asiatic hybrid ‘Prato’ and to compare between two explants for shoot proliferation and organogenesis. Bulb scales and leaf segments as explants of Lilium ‘Prato’ were cultured on Murashige and Skoog (MS) basal medium supplemented with benzyl adenine (BA) at 0.25, 0.5, 1.0 and 2.0 mg/l and naphthalene acetic acid (NAA) at 0.25, 0.5 and 1.0 mg/l. Callus was formed over the bulb scales before shoot organogenesis occurred, while shoot organogenesis occurred directly from the leaf segments without callus formation. It was found that the bulb scales gave higher percent of shoot regeneration than leaf segments when used as explants and was 96.67 and 64.67\%, respectively. BA at 0.5 mg/l gave the highest percentage of shoot formation, shoot height and the lowest number of days to proliferation, while BA at 2.0 mg/l caused a delay in shoot organogenesis and reduced shoot height in both explants.

Key words: Lilium hybrid, benzyl adenine, naphthalene acetic acid.
REFERENCES:
Effect of Nitrogen and Diphenylamine on
*Gladiolus hybrida* cv. Sancerre Production

*Eman Sewedan, Hany El-Naggar and Amira Osman*
1Department of Horticulture, Damanhour University, Egypt
2Department of Floriculture, Alexandria University, Egypt

**Abstract:** This investigation was carried out during 2010 and 2011 seasons on *Gladiolus hybrida* cv. "Sancerre" grown in 25 cm diameter clay pots at a commercial nursery, in Damanhour city, El-Beheira governorate, Egypt. The aim of this work was to study the effects of different levels of ammonium nitrate (33.5% N) at rates of (zero, 2, 4, 6 g/ plant) as a source of nitrogen and diphenylamine (98%) at rates of
(zero, 100, 150, 200 ppm) as a source of amino acid on the vegetative growth, flowering, corms production and chlorophyll contents of Gladiolus (*Gladiolus hybrida* cv. "Sancerre"). From the obtained results it was concluded that treating gladiolus plants with ammonium nitrate at 6gm/plant and diphenylamine at 150 ppm improve the vegetative growth, flowering characteristics, corms production and total chlorophyll contents in the leaves of *Gladiolus* plants.

**Key words:** *Gladiolus hybrida* cv. "Sancerre" % Diphenylamine % Nitrogen % Vegetative growth % Flowering characteristics % Corms production

ISSN 2079-2158
© IDOSI Publications, 2012
DOI: 10.5829/idosi.jhsop.2012.4.3.256

**REFERENCES**


