Invitation Report

Topic: Canadian Research Initiative for Saving the Sacred Plant（CRISSP）: Collaborative Opportunities for Developing Novel Products

Speaker: Prof. Praveen K. Saxena

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Time: 10:00 (am) August, 24, 2011（Wednesday）

Place: Room 308, IPE Mansion

Introduction

The major focus of research in Dr Saxena's Plant Cell Technology Lab has been on the study of regulatory signals that control morphogenesis in vitro and the application of this knowledge for developing value-added products and production technologies.The most significant contributions of his research are: a) Understanding the role of melatonin in plant development and adaptation to environmental stress; b) Regulation of in vitro morphogenesis by unusual growth regulators such as thidiazuron; c) Optimized production technologies for medicinal plants; and d) Conservation, sustainable use, restoration, and replenishment of sacred plant species that are rare and endangered, seriously restricted in reproduction in natural ecosystems, unusual in growth and developmental characteristics offering interesting opportunities for research, education, and commercial application, critical to food security, and traditionally used in medicinal, religious, spiritual and cultural practices.

Abstract

CRISSP is an interdisciplinary research initiative with a mandate to advance the knowledge and application of in vitro culture technologies for the conservation, sustainable use, and restoration of rare and endangered plants.

Integrated controlled environment production technologies combine micropropagation, large-scale multiplication in bioreactors and growth chambers to achieve mass multiplication of elite plants followed by assessment of chemical and biological activities. The program offers an excellent opportunity for collaborative research with the University of Guelph to introduce novel plant based products. These potential products include plant based medicines, disease-resistant plants and novelty ornamentals produced through biotechnology, mutation, and natural selection of important biodiversity. This presentation provides an overview of the current projects under CRISSP, regulatory guidelines of the Natural Health Products Directorate of Canada and potential sources of financial support.

Keywords: Medicinal plants; Large-scale multiplication; Bioreactor; Plant-based products