

# II INTERNATIONAL SYMPOSIUM ON SCIENCE AND BIOTECHNOLOGY ENTREPRENEURSHIP AND INNOVATION

## INFLUENCE OF ETHYLENE, ABSISIC ACID OR BRASSINOSTEROID APPLICATION OVER GENE EXPRESSION DURING STRAWBERRY RIPENING

Luane Bosetto\*, Ricardo Antonio Ayub\*\* and Letícia Reis\*\*\*

\*UEPG, Agronomy student; \*\*UEPG, Professor (Phytotechnology and phytosanitary department);  
\*\*\*UEPG, Doctoral student (Agronomy).

Financial support: Capes, CNPq and State of Parana Research Foundation.

### Abstract

Strawberry (*Fragaria x ananassa* Duch.) is a crop of high commercial value that has been used as a model for non-climacteric fruit ripening studies, aiming the reduction of postharvest losses, due its high perishability. While for the climacteric fruits, ethylene is the main responsible throughout the ripening process, in the non-climacteric fruits, this process is not completely understood. The aim of this work was to evaluate the effects of ethylene (ET), abscisic acid (ABA) or brassinosteroid (BR) application over strawberry ripening, analyzing gene expression on key points of each pathway. The strawberry fruits cv. Camino Real in four ripening stages (green, white, pink and red) were harvested (postharvest) or not (field) and treated with ethephon, abscisic acid, epibrassinolide or none (control), in ethanol 2%. After consecutive steps, the cDNA was obtained, allowing the analysis of relative gene expression by Real Time PCR. The results shown that these regulators play a role over the ripening process, acting each one in a specific point, mainly in white (ET) and pink stages (ABA and BR), which was observed in the field assay. At postharvest, the stress caused by the harvest altered the plant response. Therefore, we concluded that these phytohormones act together in the non-climacteric fruit ripening regulation, however, due its high complexity, more studies are needed.

# **II INTERNATIONAL SYMPOSIUM ON SCIENCE AND BIOTECHNOLOGY ENTREPRENEURSHIP AND INNOVATION**

Keywords - *Fragaria x ananassa* Duch.; non-climateric fruit; plant physiology; phytohormones; gene expression; signaling pathways; Real-Time PCR.

E-mail - luaneb\_94@hotmail.com.

11/03/2011

**Programa de Mestrado Acadêmico  
em Ciência e Biotecnologia**