Flowers Innovation Technology

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Technological advances in floriculture has played a key role in the advancement of the floriculture market in Brazil in the last decades. For example, the use of molecular markers in genetic engineering was able to map the genotype of many flowers and to increase the longevity of cut flowers. Specifically, genetic manipulation allowed the expression of a gene to be negatively regulated, inhibiting the formation of enzymes related to flower senescence process and consequently increasing flower longevity.

Greenhouse automation processes have also contributed to the production of flowers in controlled conditions, resulting in high quality products. The advancements in computer sciences and the emergence of artificial neural network made possible the improvement of analysis through regression and multivariate analysis techniques. Recently, the use of neural network in a greenhouse, which was fed with about 30 environmental parameters (both morphological and physiological), made it possible to predict the life of cut rose vase at the time of harvest.

Packing houses have developed increasingly and the use of digital images for the classification and selection of flowers began to be used. Air transportation, which emits many pollutants, is gradually being replaced by shipping. The use of modified atmospheres has been a solution for this type of transportation. Differently from planes, shipping containers could have controlled atmosphere, and the postharvest quality and marketability of flowers is high in this system.

Technological innovation is the adoption of new methods or adaptation of those already existing in production, which significantly increases the final product quality. In this special issue "Innovations in Horticulture" the reader is invited to get in touch with new knowledge of the various areas of the flower production chain and landscaping, which encompass propagation, biotechnology, physiology, postharvest among others.