

# BOOK OF ABSTRACTS

## 3<sup>rd</sup> International Symposium on **RECENT ADVANCES IN FOOD ANALYSIS**

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**B-6****PRODUCTION OF TOMATOES BY TWO DIFFERENTS AGRICULTURAL METHODS IN BRAZIL: TOMATEC PROJECT**

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To increase the productivity of their tomato crops, farmers frequently make use of large amounts of soluble fertilizers and pesticides. Thus, the contamination of soil and surface waters at the vicinities of the tomato plantations as well as the occurrence of very serious public health problems is frequently seen. In this opportunity the production of tomatoes by two different agricultural methods was studied. In the first method the tomatoes were produced in a conventional way (Traditional Tomatoes). In the second method the tomatoes were produced according a new agricultural technology, which intended to minimize the amount of pesticides used in the agricultural production as well as to maximize the productivity and the quality of the fruits (Ecological Tomatoes). The project was carried out in the district of S. José do Ubá, in the State of Rio de Janeiro in two different segments: In the first segment (prior to 2006) two farmers that produced the Ecological Tomatoes and five that produced Traditional Tomatoes participated. In the year of 2006 and afterwards, three producers of the Ecological Tomatoes and one of Traditional Tomatoes, participated. At first, only production technologies aiming to protect the agricultural soil and to promote a better usage of irrigation water as well as integrates pest management was used. Starting in 2006, in addition, immediately after sprouting the tomatoes were enclosed in wax paper bags until they were collected. In which it concerns to pesticide residues, prior to 2006 the Ecological and Conventional Tomatoes were analyzed only for dithiocarbamates. No residues of that class of pesticides were found in the Ecological Tomatoes. In contrast, residues of Dithiocarbamates in concentration above the allowed limit (ANVISA/2007, 2,0 mg/kg CS<sub>2</sub>) were found in the traditional Tomatoes. Starting 2006, besides Dithiocarbamates, the tomatoes were analyzed quantitatively (GC-ECD/FPD) for 28 halogenated and 18 organophosphate pesticides, as well as qualitatively (GC-MS) for 100 pesticides residues. As before, no residues were found in the Ecological Tomatoes. Finally, it should be mentioned that another advantage of the methodology used in the production of Ecological Tomatoes was the insignificant loss of fruit observed: the Ecological Tomatoes farmers lost less than 1 % of the fruits.