

On 23-25 March 2014 at the Research Institute of Horticulture in Skierniewice was held 3rd International Conference on "Effect of Pre-and Post-Harvest Factors on Health Promoting Components and Quality of Horticultural Commodities". The organizers of the Conference were: Research Institute of Horticulture in Skierniewice, Storage Section of the Horticultural Science Committee of the Polish Academy of Sciences and the Working Group "Quality Fruit" operating under EUFRIN (European Fruit Research Institutes Network). The meeting was held under the patronage of the Polish Academy of Sciences and the Polish Society for Horticultural Science.

The purpose of the organized conference was to present the latest results of the research carried out in Poland and abroad with special reference to the quality and sustainability of horticultural products, innovative technologies used in storage and technology of minimally processed fruits and vegetables.

The conference was attended by 125 people, including 54 from abroad. They were representatives of research centers from 17 countries (Czech Republic, Egypt, England, Estonia, Germany, Greece, Israel, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Russia, Serbia, Thailand, Ukraine).

During the conference 28 oral presentations and 60 posters were presented, summaries of which are given in the book of abstracts (108 pages), which also contains the conference program and the list of authors and sponsors (available on the website of the Research Institute of Horticulture in PDF version).

Plenary sessions

During the conference there were presented two papers by invited speakers:

Prof. Giancarlo Colelli (Italy) had a lecture on: "A state of the art on quality and safety of fresh-cut products through the EC-funded R & D Project 'QUAFETY'"

Prof. Elazar Fallik (Israel) covered the subject: "Pre- and postharvest practices may influence pepper fruits after prolonged storage"

The conference was divided into eight sessions. Two first sessions proceeded by the introductory lecture by Professor Giancarlo Colellego, were devoted to the research results obtained in the project "QUAFETY". Discussed, among others, were the impact of pre- and postharvest factors on the quality and consumption safety of the minimally processed fruits and vegetables. The following factors were mentioned that influence the eating quality and nutritional value of this type of products: genotype, post-harvest treatment (hot water) as well as packaging and processing conditions. Presented were also results on the exploration of molecular markers, as well as non-destructive methods to assess the quality of the products.

During the next session were presented inter alia the results of research on the effects of post-harvest treatment of fruit using hot water (apple 'Golden Delicious' cv.) and cold water (raspberry 'Polka' cv.) on the quality and storage stability. Discussed were also important factors affecting safety of consumption of fruit and vegetables (microbiological and physical), as well as the methods of quality assessment and unification of the batches of products supplied to the distributors using non-destructive measurement methods.

The fourth session, entitled "Innovative storage technologies - in practice", was in fact the excursion to the facilities of a Group of Fruit Producers 'ROJA' in Regnow. Currently the group has 43 members with a total area of approximately 900 hectares of orchards. Modern storage facilities (target 52 chambers with a total storage capacity of 18 000 tonnes) were completed in May 2013. In this facility apples are stored using innovative technologies with ultra low oxygen content (ULO) and controlled

atmospheres (KA). In preparation of fruits for sale used is modern sorting and packing line. The target turnover of the Group's facility in Regnow is assumed at 50 000 tons of apples per year.

The next three sessions, proceeded by the introductory lecture delivered by Professor Elazar Fallika of Israel, included issues relating to the impact of pre-and post-storage factors on the quality of fruits and vegetables and their health benefits. Presented were, among others, the results of studies using 1-methylcyclopropene (1-MCP) to extend the shelf life of vegetables (tomatoes) and fruits (apples and pears). Participants also discussed the possibility of extending market availability of apples through innovative storage technologies (eg. Dynamically Controlled Atmosphere, ILOS, ILOS Plus, SmartFresh, ULO). In addition to the scientific aspect, including, among others, the health benefits of apples stored in different technologies, attention was also paid to the practical aspects of the research, ie. quality factors which must characterize fruit earmarked for storage in these technologies.

Undoubtedly important, from a practical point of view, there have been reports about the possibility of placing on the market new cultivars of apples and pears. Their authors paid attention to some significant qualitative characteristics that should be taken into account by fruit breeders, as far as possible to meet the needs of potential consumers.

Poster Session

During the poster session were presented, among others, the results of research conducted in academic centers of Europe under a variety of national and international research projects.

Of all presented posters Evaluation Committee composed of:

Angelo Zanella (Italy) - Chairman

Elazar Fallik (Israel) - member

Giancarlo Colelli (Italy) - member

Krzysztof Rutkowski (Poland) - member

identified three posters, granting:

First prize for the poster titled:

- "The influence of hot water treatment on structure of rocket leaves tissues" by: Barbara Dyki, Maria Grzegorzewska, Aleksandra Murgrabia, Elżbieta Panek (Poland)

Second place for the poster:

- "Influence of different growing systems on strawberry chemical content in Latvia (temperate zone)" by: Valda Laugale, Sarmite Strautina, Inta Krasnova, Dalija Seglina and Kaspars Kampuss - Latvia

Third place for the poster:

- "Ethylene-activity of apple and plum fruits during storage, postharvest treated 1-MCP (SmartFreshsm)" by O. Melnyk, A. Drozd, N. Boicheva, Y. Zhmudenko, I. Melnyk, L. Khudik, L. Remeniuk, L. Vykhvatniuk, V. Pyrkalo - Ukraine

The authors of the winning posters were presented commemorative statues.

The official part of the meeting ended with the invitation of the participants to take part in the next, the fourth edition of the conference, which is planned once every four years, and to participate in the "XII International Controlled & Modified Atmosphere Research Conference" organized by the Research Institute of Horticulture in Skierniewice in 2017.

It also stressed that the organization of this type of periodic international conferences becomes a bridge of knowledge transfer between research centers in Western and Eastern Europe, and the place of this transfer is the Institute of Horticulture in Skierniewice and its scientific staff.

Workshops and meetings during the Conference

QUAFETY

On the first day of the conference there was a meeting of the members of the Scientific Consortium of a project carried out within the EU FP7 289719 (2012-2014) "Comprehensive approach to enhance quality and safety of ready to eat fresh products" - acronym "QUAFETY".

EUFRIN

At the end of the Conference there was a meeting of members of the Fruit Quality Working Group, operating within the European Fruit Research Institutes Network (EUFRIN). Its chairman, Dr. Krzysztof Rutkowski, informed the participants (14 people from 6 countries) with the activities on the acquisition of projects under the European Union Programme Horizon 2020. During the meeting proposal was put forward of changing the name of the Working Group on " Postharvest and Fruit Quality". This proposal will be presented officially at the next meeting of the EUFRIN Management Committee .