VII Postharvest Unlimited Congress

Abstract book

DAY 1 - 15 May	8.30 - 8.45	Opening		
	8.45- 9.15	Keynote Toine Timmermans		
	9.15 - 10.00	Keynote Ernst Woltering		
	10.00 - 10.30	Coffee & poster viewing		
	10.30 - 12.00	Plenary session: Thijs Defraeye, Rick van de Zedde, Bart Nicolai		
	12.00-13.30	Lunch & poster session 1		
		Podium	**Momentum 2-3**	**Momentum 1**
	13.30 - 15.00	PHU session 1a Invited: Pedreschi	PHU session 1b	PHO session 1 Invited: Çelikel
		Physiology 1	Postharvest Pathogens 1	
	15.00 - 15.45	Coffee & poster viewing		
	15.45 - 17.15	PHU session 2a Invited: Mishra	PHU session 2b	PHO session 2 Invited: Fanourakis
		Quality Measurements 1	Storage and technology 1	
DAY 2 - 16 May	9.00 - 10.15	PHU session 3a Invited Bovy	PHU session 3b	PHO session 3 Invited: Arens
		Preharvest conditions 1	Sensory & nutrition	
	10.15 - 11.00	Coffee & poster viewing		
	11.00 - 12.15	PHU session 4a Invited: Lukasse	PHU session 4b	PHO session 4
		Logistics and modelling	Pre-harvest treatments 1	
	12.15 - 14.00	Lunch & poster session 2 & business meeting Ornamentals (momentum 1)		
	14.00 - 15.30	PHU session 5a	PHU session 5b	PHO session 5 Invited: Verdonk
		Quality Measurements 2	Physiology 2	
	15.30 - 17.00	Excursion NPEC/Phenomea/Unifarm	Excursion NPEC/Phenomea/Unifarm	Excursion NPEC/Phenomea/Unifarm
	19.00 - 22.30	Conference dinner, WICC		
DAY 3 - 17 May	9.00 - 10.30	PHU session 6a Invited: Farneti	PHU session 6b	PHU session 6c
		Physiology 3	Preharvest conditions 2	Postharvest Pathogens 2
	10.30 - 11.00	Coffee & poster viewing		
	11.00 - 12.30	PHU session 7a	PHU session 7b	PHU session 7c
		Quality Measurements 3	Postharvest treatments 1	Chilling and disorders 1
	12.30 - 14.00	Lunch & poster session 3 & business meeting Unlimited (momentum 2-3)		
	14.00 - 15.00	PHU session 8a	PHU session 8b	PHU session 8c
		Chilling and disorders 2	Packaging and coating 1	Storage and technology 2
	15.00 - 15.30	Coffee & poster viewing		
	15.30 - 16.30	PHU session 9a	PHU session 9b	PHU session 9c
		Packaging and coating 2	Postharvest treatments 2	Storage and technology 3
	16.30 - 17.00	Closing ceremony		
	17.00 - 18.00	Farewell drinks, Restaurant Omnia		

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ISHS International Conference
14-18 May 2023 - Wageningen, NL

XII Postharvest Ornamentals
ISHS International Symposium
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Session: PHU6a-i

Interdisciplinary omics studies to improve fruit quality and storability

Brian Farneti, Via Mach 1, 38010, San Michele all"Adige (TN), Italy; brian.farneti@fmach.it (presenting author)

Abstract

Fruit quality can be defined by the achievement of four key factors: appearance, flavour, texture, and nutritional properties. Although the importance of these factors can hardly be underestimated, breeding efforts have historically been oriented to improve mostly fruit appearance and productivity. However, often, selection for yield, fruit size, colour, and shelf life properties has unintended negative consequences on other fruit quality traits, such as taste and aroma. Defining and quantifying these quality components, in relation with distinct segments of the production chain, needs comprehensive investigations and a tight synergy of analytical approaches, with a particular focus on rapid and multi-omics methods. Understanding the stability of each quality trait during different storage and growing conditions may allow a better definition of future breeding strategies aimed, for example, at the selection of accessions suitable to improve distinct market sectors. During this presentation we will address several analytical methodologies, developed in recent years at the Edmund Mach Foundation labs, for the objective analysis of the most relevant qualitative aspects of fruit and vegetables. In particular, we will show how methods for the analysis of texture, and primary and secondary metabolites of fruit have been developed and applied. Specific attention will be paid to the application of direct injection mass spectrometry techniques (i.e. PTR-ToF-MS) for the analysis of volatile compounds, in order both to define the aromatic component of a product and to determine possible biomarkers applicable in physiological, genetic, and postharvest studies. In our institute, this synergism of novel analytical omics approaches is fully applied into the breeding activities of several fruit species (i.e. blueberry, apple, grape, raspberry and strawberry) in order to develop new cultivars characterized by both prolonged storability and high perceived quality. Moreover, this research approach is valuable to deeply investigate and step forward in the comprehension of the genetic and physiological aspects controlling fruit quality, especially during the postharvest phase. In our opinion, this knowledge would enable, in a close future, for a more precise selection of the most favourable new accessions distinguished by superior fruit quality, and for the development of more cultivar-tailored postharvest strategies.