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Book Review:

Quality Determinants in Coffee Production by Lucas Louzada Pereira and Taís Rizzo Moreira. Springer, 2021

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The book entitled "Quality Determinants in Coffee Production" is an inspiring work on the analysis of coffee production, describing the key factors determining the process of its production. The theoretical and cognitive aspects are presented by an outstanding team of scientists and practitioners. The monograph is not only an academic textbook or a textbook on coffee production and brewing for practitioners, but also consolidates a theoretical, empirical and cognitive approach to the holistic view of the production quality process. The authors' considerations do not follow the established paradigm that the production of coffee greatly depends on the processes related to the method of harvesting and processing the raw material into the final product, and less on the quality of soil, climate or cultivation methods. They suggest that these processes are coherent and complement each other. I find this approach as a kind of novelty.

The monograph is divided into 9 chapters that are complementary to each other. The first chapter is devoted to various methods of harvesting coffee, starting with a manual harvest and ending with a mechanical one. In the book the authors try to explain how the time and manner of harvesting coffee condition the quality of beans, particularly in the case of a simultaneous harvest of ripe and unripe fruit. Further the processes of drying coffee are discussed, including the drying on sun terraces and with the use of mechanical dryer. In that regard the authors pointed out how important it is to quickly reduce humidity to prevent fermentation and mould growth. In the conclusion the researchers show the effective methods of coffee storage based on the ventilation methods and safeguarding against humidity.

In the second chapter the researchers focus on climate changes and their impact on coffee cultivation in Brazil, with special consideration

given to the Espírito Santo region. The authors prove that the rise in temperatures and irregular precipitation determine the process of coffee ripening, which may often lead to the reduction of harvests and the deterioration of the coffee quality. They also discuss the threats for coffee cultivation, such as draughts and floods, that may cause coffee production to fluctuate. The considerations are supplemented with chapter three which pertains to microbiological research in the field of coffee production. The researchers prove that microorganisms affect the sustainability of the coffee growth process and the resilience of coffee plants, which directly influences the taste of the infusion. This part discusses individual groups of microorganisms, including bacteria and fungi, which support the coffee plants in the absorption of nutrients and protect them from the pathogens. Other issues discussed in this chapter include soil management and the impact of organic fertilisers on the soil ecosystem, which is of key importance in achieving the right coffee quality.

In the following fourth chapter, the biochemical changes taking place during coffee fermentation are discussed in detail, as they are one of the key stages of taste development. The authors present the fermentation techniques and reactions that take place during the process analysed above. They explain how the enzymes and individual microorganisms contribute to the sweetness, acidity and complexity of the coffee aroma. In the context of these considerations, it needs to be stated that part five of the monograph is very interesting, as it describes the chemical composition of coffee beans, including the content of caffeine, chlorogenic acids, lipids and other aromatic compounds in coffee. The researchers thoro-ughly present the differences between coffee varieties, focusing particularly on two kinds, that is arabica and robusta. It is worth noting that further considerations on coffee produ-ction are given in chapter six which is devoted to the individual methods of its processing. The authors describe the methods of processing the raw coffee material into the final product. Furthermore, they try to explain how various methods and techniques, including, for example, the dry and wet method, help to achieve the optimum aromatic quality of coffee.

The following three chapters focus on the process of roasting coffee, its classification and market trends. In that regard, it should be noted that chapter seven is devoted to the process of roasting coffee, which determines its taste and aroma. The authors discuss the changes that take place in the beans while roasting coffee, and consequently give coffee its sweetness, bitterness and aroma. The resear-chers consider two determinants that help to achieve the optimum taste of the coffee, that is the temperature and duration of coffee roasting. In the next chapter the authors chara-cterise the methods of the classification of coffee bean quality, with special conside-ration given to the factors related to the shape, colour and hardness of the beans. The last chapter focuses on the analysis of the modern market trends. The authors point out that consumers more and more often look for coffees with a unique taste, which requires innovative methods of processing and roasting. Also discu-ssed are consumer preferences concerning the methods of making coffee in order to achieve various optimal flavours and aromas.

To conclude, I believe that the monograph entitled “Quality Determinants in Coffee Production” is theoretical, empirical and applicable

at the same time and combines the cognitive values that are very important to both scientists and practitioners. The applied met-hods of thought operation, deduction and induction help the reader to better understand the nature of problems related to the individual conditions of coffee production, including the optimal trends and techniques of coffee bean processing. It is worth noting that itconstitutes a compendium of knowledge for further exploration of the issue of the variability of quality determinants in coffee production.

Notes on contributors

Jaroslaw Korpysa, is a professor University of Szczecin (post PhD), is employed at the in Department of Support Decision's Methods and Cognitive Neuroscience. He is a chair of the scientific committee UNESCO Chair for Social Sustainability. He has published many articles (124) about entrepreneurship, academic entrepreneurship, spin – off companies. He was fellower 6 th and 7th FP, Human Resources and Mobility Activity, Marii Curie Action at University of Vilnius (Lithuania), University of St. Gallen (Switzerland) and Institute of World Economy and International Relations, National Academy of Sciences of Ukraine. His scientific interests: academic, entrepreneurship, modern business theories, competitive strategy, risk management, labour market. He participated in national and international conferences (more than 70) and in the scientific projects (12) funding by MEiN, NCNN, NCBiR and the European Commission.
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