

Foreword

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Milk is extremely perishable, and yet it has to be preserved for later consumption. Membrane filtration, vacuum concentration lactose crystallization, homogenization and spray drying dehydration are valuable techniques to stabilize most dairy ingredients. Considering the ever increasing reach of international dairy trade, there is a need for the dairy industry to extend its ingredient process control capability through increased understanding of how these concentration and spray drying processes affect the quality of the resulting dairy powders. The 6th International Symposium of Dairy Dried Products (SDDP) in Dublin was hosted by the IDF National Committee of Ireland with the organizational support of Teagasc (Teagasc Food Research Centre Moorepark, Co. Cork, Ireland) under the supervision of Dr. Phil Kelly and Dr. Mark Fenelon. The aim of this event was to review and to discuss on the latest developments and innovations in dairy dried ingredients on the properties of spray-dried dairy products, on the modelling and simulation of water transfer processes and on spray drying equipment and energy consumption.

The major items were

1. Overview of global markets for dried products including recent restructuring and investment trends
2. Concentrate and dry ingredients—new and emerging technologies
3. Concentration and drying fundamentals including modelling
4. Infant formula/nutritionals—processing and functionality
5. Powder functionality—physico-chemical effects and storage
6. Membrane—driven process innovation underpinning ingredient advances
7. Whey, permeate, lactose—powder processing and functionality

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Improving the quality of dairy powders and their potential for use will come through the study of the product–processes interactions at the level of the water dynamics before, during, and after drying. Sustainability issues and reduction of energy costs is the next challenge for the decade to come (Schuck et al. 2016). The next International Symposium of Dairy Dried Products (SDDP) will be in China under the supervision of Pr X. Dong Chen from Suzhou Key Lab of Green Chemical Engineering, School of Chemical and Environmental Engineering, College of Chemistry, Chemical Engineering and Material Science, Soochow University, Jiangsu, China, in 2019.

References

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