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Nota di contenuto	Sustainable Dairy Production; Copyright; Contents; Preface; Contributors; 1 Introduction; 1.1 Sustainability and the dairy industry: hype or trend?; 1.2 Quantifying the issue: measuring footprints; 1.3 Communication: telling the whole story; 1.4 Structure of this book; References; 2 Greenhouse gas emissions from global dairy production; 2.1 Introduction; 2.2 Methods for calculating emissions; 2.2.1 Model description; 2.2.2 Database and data sources; 2.3 Total emissions of the dairy sector; 2.3.1 Global overview; 2.3.2 Intensification of dairy production and regional trends 2.3.3 Post-farm-gate emissions2.3.4 Sensitivity, uncertainty and validation; 2.4 Discussion; 2.4.1 Contribution to climate change; 2.4.2 Efficiency and potential for mitigation; References; 3 Life cycle assessment; 3.1 Introduction; 3.2 Current life cycle assessment; 3.2.1 Impacts associated with land use; 3.2.2 Global, regional and local

effects; 3.2.3 Water use; 3.3 Life cycle assessment in application; 3.4 Life cycle assessment of dairy products; 3.4.1 Allocation; 3.4.2 Results of LCA; 3.5 Life cycle assessment in strategy and policy;

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4 Sustainability and resilience of the dairy sector in a changing world: a farm economic and EU perspective4.1 Introduction; 4.1.1 Background; 4.1.2 Purpose and focus; 4.1.3 Sustainability and dairy; 4.2 Dairy economics and sustainability; 4.2.1 Sustainability and resilience of the firm; 4.2.2 Profitability and the family farm; 4.2.3 Competitiveness; 4.3 Sustainability evaluation of the EU dairy sector; 4.3.1 Economic sustainability (profit); 4.3.2 Environmental sustainability (planet); 4.3.3 Social sustainability (people); 4.4 Agricultural policy; 4.5 Conclusion; References

5 Dairy processing5.1 Introduction; 5.2 Key unit operations and their water and energy use; 5.2.1 Milk pre-treatment; 5.2.2 Milk heat treatment; 5.2.3 Evaporation; 5.2.4 Drying; 5.2.5 Membrane filtration; 5.2.6 Cleaning; 5.2.7 Storage (conditioning, cooling); 5.2.8 Utilities (heat generation, cold generation); 5.3 Possibilities for optimisation; 5.3.1 General process optimisation; 5.3.2 Energy use; 5.3.3 Water use; 5.3.4 Waste stream valorisation; 5.4 Revisiting dairy processing: breakthrough technologies; 5.4.1 Model-based dairy production; 5.4.2 High solids evaporation and drying

References6 The role of packaging in a sustainable dairy chain; 6.1 Introduction; 6.2 Packaging sustainability: a growing market expectation; 6.2.1 Consumer expectations; 6.2.2 Worldwide legislative pressures; 6.2.3 Packaging: a priority focus for NGOs; 6.2.4 Retailers: the gateway to sustainable markets; 6.2.5 Some consequences for dairy packaging; 6.3 Packaging's contribution to dairy sustainability; 6.3.1 Packaging in the analysis of the dairy chain's environmental impacts; 6.3.2 Packaging's life-cycle environmental performance 6.3.3 Driving packaging's contribution to environmental impact reductions

Sommario/riassunto

"This book offers a comprehensive overview of the state of the art in sustainable dairy production, helping the industry to develop more sustainable dairy products, through new technologies, implementing life cycle analysis, and upgrading and optimization of their current production lines. It aims to stimulate process innovations, taking into account environmental, economic and public relations benefits for companies. Topics covered include: How to set up a sustainable production line How to quantify the carbon foot print of a dairy product by using life cycle analysis Current technologies to improve the carbon foot print What measures can be taken to reduce the global warming potential of the farm Reduction of water use in dairy production Marketing sustainable dairy products Bench marking of dairy products against other food products Potential future technological developments to improve the carbon foot print for the following decades "--
