

1. Record Nr.	UNINA9910410048003321
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Titolo	Processing of Foods and Biomass Feedstocks by Pulsed Electric Energy / / by Eugene Vorobiev, Nikolai Lebovka
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-40917-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XIX, 418 p. 218 illus., 196 illus. in color.)
Disciplina	571.64
Soggetti	Food—Biotechnology Organic chemistry Food Science Organic Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Historical background of processing of foods and biomass feedstock's by electricity and pulsed electric energy -- Fundamentals of electroporation, theory and existing mathematical models for simulation of PEE processing -- Techniques to detect electroporation -- Pulse generators and producers of equipment -- Solid/liquid extraction and expression -- Drying -- Cooling, freezing, thawing and crystallization -- Fruits: apple, tomato, and citruses -- Sugar crops -- Potato and carrot crops -- Grapes and residues of wine industry -- Biomass feedstocks.
Sommario/riassunto	This book presents a comprehensive range of research on pulsed electric energy used in food processing, including sections on the fundamentals of electroporation and important techniques for the estimation of electroporation effects in various foods and biomass feedstocks. By focusing on application over theory, this book presents researchers with practical steps for processing techniques such as solid-liquid extraction, pressing, osmotic dehydration, drying, freezing and cooking. Special interest is given to the selective recovery and extraction of sugar, inulin, starch, proteins, polysaccharides, polyphenols, pigments, flavor compounds, phytochemicals and other of high-value components from food biomasses such as fruits and

vegetables, leaves, herbs, mushrooms, microalgae and suspensions of cells. Processing of Foods and Biomass Feedstocks by Pulsed Electric Energy presents a singular overview of the biorefinery applications of pulsed electric energy for the processing of wastes and non-food biomasses such as root and tuber crops, grape waste, lignocellulosic biomass, oil crops and residues and seeds and peels of exotic and citrus fruits. The book begins by presenting general information on the fundamentals of electroporation and information on the procedures and protocols involved. Further chapters focus on the specific food processing operations involved and biorefinery applications for the processing of wastes and non-food biomasses. All of the relevant and up-to-date information any researcher needs on pulsed electric energy in food processing is presented here in this text. .
