1. Record Nr. UNINA9911018871803321 Autore Stanghellini Cecilia Titolo Greenhouse horticulture: Technology for optimal crop production, second edition / / Cecilia Stanghellini, Bert Van 't Ooster, and Ep Heuvelink Leiden;; Boston:,: Brill | Wageningen Academic,, 2024 Pubbl/distr/stampa ©2024 **ISBN** 9789004697041 9789004697034 Edizione [2nd ed.] Descrizione fisica 1 online resource (317 pages) Disciplina 635.9/823 Soggetti Greenhouse gardening Greenhouse management Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Chapters: -- 1: Introduction -- 2: Crop as a production machine -- 3: Radiation, greenhouse cover and temperature -- 4: Properties of humid air and physics of air treatment -- 5: Ventilation and mass balance --6: Crop transpiration and humidity in greenhouses -- 7: Crop response to environmental factors -- 8: Heating in climate-controlled greenhouses -- 9: Cooling and dehumidification -- 10: Supplementary lighting -- 11: Carbon dioxide supply -- 12: Managing the shoot environment -- 13: Root zone management: how to limit emissions --14: Vertical farms -- 15: The future. Greenhouse horticulture' is an easy-to-read textbook for all those Sommario/riassunto interested in protected cultivation, from university students and teachers to professional advisers in the field and managers of horticultural companies. This book provides an integrated approach to crop growth and development and the technical aspects of greenhouse cultivation and climate management. It combines an analysis of the relationship between crop production and ambient climate with an explanation of the processes that determine the climate in a protected environment. With the ability to modify the environment comes the

need for growers to strike a balance between the costs and benefits of

technology. This book outlines the methods and gives several examples of how to make 'optimal' choices about technology. Sustainable management of shoot and root environment is discussed, as well as the pros and cons of vertical farming. The processes addressed in this book, like crop growth, energy balance and mass exchange, apply to any kind of greenhouse. Therefore, in spite of the word 'technology', this is not a book about high-tech greenhouses only.