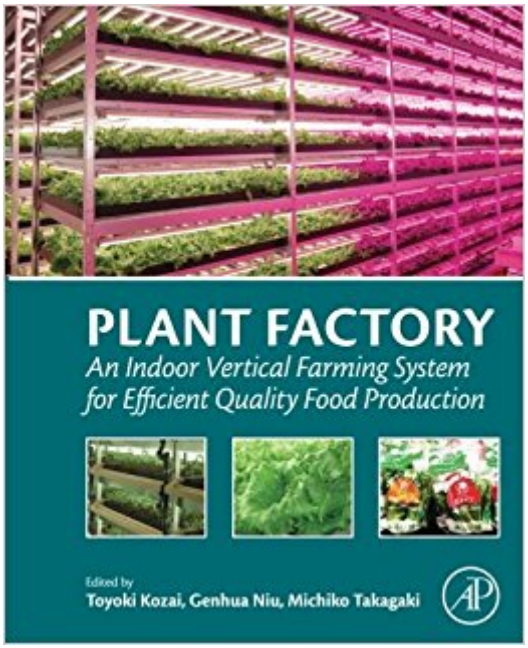
Plant Factory: An Indoor Vertical Farming System For Efficient Quality Food Production



Synopsis

Plant Factory: An Indoor Vertical Farming System for Efficient Quality Food Production provides information on a field that is helping to offset the threats that unusual weather and shortages of land and natural resources bring to the food supply. As alternative options are needed to ensure adequate and efficient production of food, this book represents the only available resource to take a practical approach to the planning, design, and implementation of plant factory (PF) practices to yield food crops. The PF systems described in this book are based on a plant production system with artificial (electric) lights and include case studies providing lessons learned and best practices from both industrial and crop specific programs. With insights into the economics as well as the science of PF programs, this book is ideal for those in academic as well as industrial settings.Provides full-scope insight on plant farm, from economics and planning to life-cycle assessmentPresents state-of-the-art plant farm science, written by global leaders in plant farm advancementsIncludes case-study examples to provide real-world insights

Book Information

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Customer Reviews

"Plant FactoryÃ Â is very useful for a beginner interested to venture into crop production using plant factory system. It provides a comprehensive information from all aspects of crop production under a housing or factory system, inclusive the design of the structure and lighting and their mantainance. I would recommend it to be used as a textbook for horticulture course on vegetables production system where land is limited such as in urban areas. The science or technical know-how is very strong as a lot of research has been conducted to support the claims. It is quite unusual for a book

to even provide information on the training centre whereby a trainee can register himself or herself. As it mentioned, this system of vegetables production is rather costly and the economics or cost-benefit analysis should be included as one of the main topic in the book. Also, the risk or probability of failure of the entrepreneur investing in this system to succeed or make money should also be highlighted. Also, it will be quite useful to know the perception of customers or how to convince the customers to pay more for the vegetables produced in the plant factory." -- Prof. Dr. Che Fauziah Ishak, Universiti Putra Malaysia

Oyoki Kozai Japan Plant Factory Association (NPO)c/o Center for Environment, Health and Field Sciences, Chiba University6-2-1 Kashiwa-no-ha, Japan Telephone: 81-4-7137 -8114, Fax: 81-4-7137 -8114 Email address: kozai@faculty.chiba-u.jp Chief Director, Association for Plant Factory Managers Chief-Director, Japan Plant Factory Association (NPO) Professor Emeritus of Chiba UniversitySummary of Academic achievements Publications: 270 original papers, 140 review papers, 159 miscellaneous papers, 171 book or book chapters, 7 translations of books from English to Japanese Patents: 20 active patents, 50 approved patents in total Number of Invited Lectures at International Meetings: 47 Number of Invited Lectures at National Meetings: 85National and International Awards 2009 Awarded for Lifetime Achievement from The Society for In Vitro Biology 2003 Awarded for outstanding contribution from Japanese Society of High Technology in Agriculture 2002 Purple Ribbon Award from Prime Minister of Japanese Government for the academic achievement of environmental studies in biology. 2002 Friendship Award from Chinese Government for the 2003 achievement of outstanding contribution to Chinese horticultural industry 2000 Fellow, Japan Association of International Commission of Agricultural Engineering 1997 Japan Prize for Agricultural Science for the academic achievement Ã¢â ¬Å“Growth Regulation and Mass-propagation of in vitro plantlets by Physical Environment Control” awarded by Japanese Academy of Agricultural Sciences and by Yomiuri Newspaper Co. 1992 Prize for academic achievement in Ã¢â ¬Å“Environmental Control in Photoautotrophic Plant Tissue Culture” awarded by Japanese Society of Environment Control in Biology. 1991 Prize for academic achievement in Ã¢â ¬Å“Fundamental Research on Environmental Control Methods for Factory-type Transplant Production” awarded by Japanese Society of High Technology in Agriculture. 1982 Prize for academic achievement in Ã¢â ¬Å“Solar Light Transmission in Greenhouses” awarded by the Society of Agricultural Meteorology of JapanTexas AgriLife Research at El Paso and Texas A&M University, TX, USA Genhua Niu Associate Professor Texas AgriLife Research and Extension Center at El Paso, Texas A&M System El Paso, 1380 A&M Circle, TX 79927 Phone: 915

859 9111 Ext 232; Fax: 915 859 1078 Email: gniu@ag.tamu.edu; URL: http://elpaso.tamu.edu/Research/Index.htm Areas of Expertise Environmental stress physiologyModeling and crop production under controlled environmentNutrient and salinity management for efficient use of water and fertilizerMicropropagation Dr. Genhua Niu is an off campus faculty at the Texas A&M AgriLife Research Center at El Paso with 100% Research Appointment. Her areas of special expertise are in environmental stress physiology and plant production in controlled environment. Her current research areas include identifying drought and salt tolerant low water use plant materials for urban landscape, quantifying growth and physiological responses of crops to drought, salt and heat stresses, and determining the minimum water requirement for urban landscape plants for maintaining a healthy landscape while conserving water. In addition, Dr. Niu is also working on evaluating the salt and drought tolerance of a range of bioenergy crops and vegetables for the semi-arid region. As a researcher at an off campus research center, Dr. Niu closely works with county extension agents on local extension programs. She also collaborates with faculty members at the Department of Horticultural Sciences, other research centers, and colleagues at other universities on research programs and graduate student education by co-advising and serving as a graduate committee member. In professional society service, Dr. Niu has been active by serving as officers of several working groups for American Society for Horticultural Science and USDA regional meetings. Professional Recognition: Extension Communications Award by Southern Region American Society for Horticultural Science. Mengmeng Gu, Dotty Woodson, Bart Drees, Steve George, Joe Masabni, Monte Nesbitt, Kevin Ong, Tony Provin, Benjamin Wherley, Doug Welsh, Genhua Niu, John Pitt, Christin LaChance, Charriss York, Richard White, James Thomas, Charles Fontanier, Jonathan Smith, Reagan Hejl.2014. Earth-Kind Landscape Management.Bridget Fellow of Japan Society for Promotion of Science, 2010. Host: Chiba University from Nov 6 to Dec 11, 2010.USDA CSREES National Water Program Award for Outstanding Integrated Activities for Water Resources, Rio Grande Basin Initiative Team Member, 2007.First USDA national teamwork award for integrated water resources, ranked number 1 out of 37 nominations.Vice ChancellorÃ¢â ¬â„¢s Award in Excellence, Rio Grande Basin Initiative Team Member, 2006, Texas A&M University Agriculture Program.Post-doctoral research Fellowship of Japan Society for Promotion of Science (JSPS), 1997 - 1998, Chiba University, Japan.Japanese Government Scholarship recipient, 1992 -1997, Chiba University, Japan

This book is an absolute powerhouse for those wishing to open up an indoor hydro vertical operation. It goes into incredible detail for every single facet of such an undertaking, from the

biochemistry of photosynthesis to the architectural layout of your warehouse/growing area. It’s also clear that there are no ulterior commercial motives here, as they do not shy away from clearly stating that (ultra-expensive) LED systems do not offer any advantages over the much cheaper T5 fluorescents (with a specific light spectrum, of course).This, along with the works of Howard Resh will be all you need to have a firm grasp on hydroponic food production. And if you’re still in doubt, read Dickson Despommier’s "The Vertical Farm" for added inspiration.If I have to point out a single shortcoming it’d be that some of the sentences would have benefited from a native English-speaking editor. Everything is clear and no information is lost, but you can tell it was written by Japanese professionals. Again, not really a problem.

This is not an easy to read book full of generalities. This is hard core science research that goes far beyond what a casual reader will understand. I would say it is at the post graduate level and is a warehouse full of valuable data.

Not just data but links to other sources of information. It is defiantly a must have for the closed growing system manager.

Lets start by warning that this is a very technical book, not for beginners or "garage" farmers.I should have read this book a couple of years ago, would have save me from a lot of headaches.Lots of scientific background and in field experiments.

Good product

Alot of Useless information. This book does nothing to give you knowledge you seek in vertical farming. It contains alot of technical jargon and useless math equations. Not useful at all. It is like opening up a math book. It tries to use a fancy picture in the cover to lure customers into thinking it has more to offer with its specialty and expertise in vertical farming but it does nothing to teach you anything useful.

Actually rating yet. I have not finished it yet. There is no tab to write a note without a rsting (to come)

Gardens: An Introduction To Growing Herbs Inside (Indoor Gardens, Indoor Gardening, Indoor Herb Gardens, Indoor Herb Gardening Book 1) HOMESTEADING: Farming For Beginners (Animal Books, Food, Farming, Beekeeping, Animal Farm) (Breeding Animals, Backyard, Farming Books, Farming for Dummies, ... Agriculture Business, Mini Farming Book 1) The Vertical Gardening Guidebook: How To Create Beautiful Vertical Gardens, Container Gardens and Aeroponic Vertical Tower Gardens at Home (Gardening Guidebooks Book 1) The Cuisinart Griddler Cookbook: 100 Simply Delicious Indoor Grill Meals in 15 Min (For the Cuisinart Griddler and other indoor grills) (Indoor Grilling Series) MINI FARMING MADE EASY FOR BEGINNERS (bonus with Home-Mushroom Guide): DIY Guide To Grow Your Own Organic Foods and Plants (Mini farming, Homesteading, ... Gardening, Mini Farming For Beginners) backyard farming: The beginnerÃ¢â ¬â„¢s guide to create your own self sufficient backyard (Backyard Farming Essentials - Mini Farming - Urban Gardening - Self Sustainability - Backyard Homestead) Backyard Farming: Your Guide to Building the Ultimate Self Sustainable Backyard Mini Farm (Backyard Farming Essentials - Mini Farming - Urban Gardening - Self Sustainability - Backyard Homestead) The Complete Guide to Organic Livestock Farming: Everything You Need to Know about Natural Farming on a Small Scale (Back-To-Basics Farming) Vertical Gardening for Beginners: How To Grow 40 Pounds of Organic Food in a 4x4 Space Without a Yard (vertical gardening, urban gardening, urban homestead, ... survival guides, survivalist series) Farming Handbook for Minecraft: Master Farming in Minecraft: Create XP Farms, Plant Farms, Resource Farms, Ranches and More! (Unofficial Minecraft Guide) (MineGuides) Gardening: The Complete Guide To Mini Farming (gardening climatic,gardening herbs, ornamental plant, Square Foot Gardening, Small Space Gardening, Mini Farming For Beginners) Aquaponics: An Introduction to Aquaponic Gardening (3rd Edition) (aquaculture, fish farming, hydroponics, tilapia, indoor garden, aquaponics system, fisheries) Vertical Jump: The Complete Guide to Increasing Vertical Leap, Improving Explosiveness, and Developing Athletic Power Vertical Jumping: 20 Exercises - How to Increase Your Vertical Jump (How to Jump Higher - How to Jump High) Stamp Factory: Fun Factory Series Food Truck Business: How To Start Your Own Food Truck While Growing & Succeeding As Your Own Boss (Food Truck, Food Truck Business, Passive Income, Food ... Truck Startup, Food Truck Business Plan,) Modern Radio Production: Production Programming & Performance (Wadsworth Series in Broadcast and Production) Gardening: Gardening :The Simple instructive complete guide to vegetable gardening for beginners (mini farming,Vertical Gardening,Agriculture Book 2) Animal Machines: The New Factory Farming Industry