

Introduction to Hydroponics and Controlled Environment Agriculture



by
Patricia A. Rorabaugh, Ph.D.

University of Arizona
Controlled Environment Agriculture Center
1951 E. Roger Road
Tucson, AZ 85719

Revised July, 2015

TABLE OF CONTENTS

CHAPTER 1:	Controlled Environment Agriculture and Hydroponics: Past, Present and Future
CHAPTER 2:	The Plant
CHAPTER 3:	How to grow greenhouse crops
CHAPTER 4:	Plant Protection: Insects and Diseases
CHAPTER 5:	Basic Principals of Hydroponics
CHAPTER 6:	Transplant Production
CHAPTER 7:	Pollination, Fertilization and Bee Management
CHAPTER 8:	Fruit Harvesting, Grading and Storage
CHAPTER 9:	Plant Nutrition and Nutritional Disorders
CHAPTER 10:	Fertigation Systems and Nutrient Solutions
CHAPTER 11:	Greenhouse Site Selection
CHAPTER 12:	Greenhouse Structures
CHAPTER 13:	Greenhouse Control Systems
CHAPTER 14:	Greenhouse Energy and Resource Alternatives “Greening” the Greenhouse
CHAPTER 15:	Greenhouse Marketing, Economics & Business Plans
CHAPTER 16:	Appendices

Disclaimer: Any reference or mention of commercial products or companies in this manual is for informational purposes only and does not represent an endorsement or affiliation by the Arizona Board of Regents or The University of Arizona, its administration, faculty or staff.

Copyright: Under the Section D(6)(a) of the University’s Intellectual Property Policy (http://www.ott.arizona.edu/uploads/ip_policy.pdf) course notes and other original course material created by faculty are considered intellectual property and owned by that faculty. Course materials may not be reproduced or distributed for commercial purposes without the express written consent of the faculty member.