## Contents

Part I	Introduction	
Toward	Soil Analyses Using Modern Sensing Technology:a More Sustainable Agricultured Ewis Omran	3
Part II	Integrated Natural Resources Management for Sustainable Production	
Case St Mohame	f Water Deficit on Food Productivity Under Saline Conditions: udy – North Sinai, Egypt ed Abu-hashim, Khaled Shaban, Amani Sallam, lelazim Negm	33
	Air, and Water Resources on Sustainable Agricultural oment in Egypt	49
in Egyp	ation of Saline-Sodic Soils for Sustainable Agriculture ted K. Abdel-Fattah	69
-	of Plant Tissue Culture on Agricultural Sustainability	93
Part III	Integrated Biopesticides and Biofertilizers for Sustainable Agriculture	
	e Alternatives Use in Egypt: The Concept and Potential	111
Mahmo	cal Pest Control for Sustainable Agriculture in Egypt ud Saleh, Nabil El-Wakeil, Huda Elbehery, Nawal Gaafar, maa Fahim	145

Impacts of Climate Change on Insect Pests of Main Crops in Egypt Ali Ahmed El-Sayed, Mohamed Ahmed Nada, and Said Moussa Abd El-Fattah	189	
Integrated Pest Management for Sustainable Agriculture	215	
Organic and Biofertilization on Crop Production in Semiarid Regions		
Using Humic Substances and Foliar Spray with <i>Moringa</i> Leaf Extract to Alleviate Salinity Stress on Wheat	265	
Part IV Integrated Fish, Plant and Animal for Sustainable Food Supply		
Importance of Forage Mixtures in Increasing Sustainable   Food Supply in Egypt   Hassan Awaad, Nehal El-Naggar, and Hend Hassan	289	
Algae and Chain Aquaculture: An Approach Towards SustainableAgricultureAgricultureNermin Adel El Semary		
Managerial and Nutritional Trends to Mitigate Heat Stress Risks in Poultry Farms Mohamed E. Abd El-Hack, Mahmoud Alagawany, and Ahmed E. Noreldin		
Nutritional Strategies to Produce Organic and Healthy Poultry Products		
Ways to Minimize Nitrogen Emissions in Agricultural Farms Mohamed E. Abd El-Hack, Ahmed E. Noreldin, Samir A. Mahgoub, and Muhammad Arif	357	
Part V Policies and Conclusions		
Policies That Work for Sustainable Agriculture in Egypt	371	
Update, Conclusions, and Recommendations for Sustainability of Agricultural Environment in Egypt: Soil–Water–Plant Nexus Abdelazim M. Negm, El-Sayed E. Omran, and Mohamed Abu-hashim	397	
Index	417	