1. Record Nr. UNINA9910337956103321 Autore Goddek Simon **Titolo** Aquaponics food production systems: combined aquaculture and hydroponic production technologies for the future / / editors, Simon Goddek [et al.] Cham,: Springer Nature, 2019 Pubbl/distr/stampa Cham:,: Springer International Publishing;, 2019 **ISBN** 3-030-15943-4 Edizione [1st edition 2019.] Descrizione fisica 1 online resource (XVI, 619 p. 116 illus., 114 illus. in color.) Disciplina 577.6 577.7 Soggetti Aquaponics Aquatic biology **Fishes** Agriculture Sustainable development Environmental education Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia PART 1: FRAMEWORK CONDITIONS IN A RESOURCE LIMITED WORLD --Nota di contenuto 1: Aquaponics and Global Food Challenges -- 2: Aquaponics: closing the cycle on limited water, land and nutrient resources -- 3: Recirculating Aquaculture Technology -- 4: Hydroponic Technology --PART 2: SPECIFIC AQUAPONIC TECHNOLOGY -- 5: Aquaponics: The Basics -- 6: Bacterial Relationships in Aquaponics: New Research Directions -- 7: Coupled Aquaponic Systems -- 8: Decoupled Aquaponic Systems -- 9: Nutrient Cycling -- 10: Aerobic & Anaerobic Treatments for Aquaponic Sludge Reduction and Mineralisation -- 11: Systems Modelling -- 12: Aquaponics: Alternative Types and Approaches -- PART 3: PERSPECTIVE FOR SUSTAINABLE DEVELOPMENT -- 13: Fish Diets in Aquaponics -- 14: Plant Pathogens and Control

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Sommario/riassunto

This open access book, written by world experts in aquaponics and related technologies, provides the authoritative and comprehensive overview of the key aquaculture and hydroponic and other integrated systems, socio-economic and environmental aspects. Aquaponic systems, which combine aquaculture and vegetable food production offer alternative technology solutions for a world that is increasingly under stress through population growth, urbanisation, water shortages, land and soil degradation, environmental pollution, world hunger and climate change.