

# NATIONAL CENTER FOR MARINE SEED RODUCTION IN CENTRAL VIETNAM RESEARCH INSTITUTE FOR AQUACULTURE NO.3

## WHITE LEG SHRIMP HATCHERY PRODUCTION TECHNOLOGY



# SPECIFIC PATHOGEN FREE PROGRAMME (SPF) –

**NGUYEN THANH VU** 

## **Vannamei Hatchery Manual**

Food and Agriculture Organization of the United Nations

#### Vannamei Hatchery Manual:

Design, Operation and Training Manual for an Intensive Culture Shrimp Hatchery Granvil Dean Treece, Joe M. Fox,1999-06 Covers two species Penaeus monodon and Penaeus vannamei It is organized into three main parts Design Operation and Training The design part focuses on two hatcheries and gives detailed plans of their construction as well as other options The operation portion of the manual details the procedures for most efficient operation of a specific hatchery This manual consists of compiled presently known information important for training new personnel Contains enough detail to provide the newcomer with knowledge to run a hatchery and provides details to assist the experienced hatchery manager Manual on Artemia production and use Van Stappen, G., Sorgeloos, P., Rombaut, G., 2024-05-31 This FAO Illustrated publication on brine shrimp is a manual for all those who are using Artemia or have an interest in this organism whether as a source of live food in the hatchery as a model organism in research or for other purpose Author It is intended for those who wish to update their knowledge on its biology production or its use but also for those who want to learn about Artemia for the first time Author A team of leading Artemia experts from around the globe with diverse backgrounds expertise and working in research education and or the industry have jointly contributed to its writing Author This manual presents in a concise form essential information on Artemia biology and the most important natural cyst resources that find their way to the aquaculture market Author It also provides detailed information on general principles and practical procedures to produce Artemia in ponds and in tank systems Author Finally the manual offers a compilation of state of the art guidelines and methodologies related to the use of this crucial live food organism in aquaculture Author The illustrations tables and practical worksheets will help the reader to implement the correct procedures in the production and use of Artemia Author This publication is a must for anyone working with this unique organism Author Health Management and Biosecurity Maintenance in White Shrimp (Penaeus Vannamei) Hatcheries in Latin America Food and Agriculture Organization of the United Nations. Inland Water Resources and Aquaculture Service, Food and Agriculture Organization of the United Nations, 2003 This publication contains technical guidance on the effective and responsible operation of shrimp hatcheries in Latin America compiled through an extensive consultative process undertaken during 2001 03 including contributions from government designated national coordinators regional and international experts intergovernmental organisations and the private sector This process was carried out through the FAO Regional Technical Cooperation Programme project which involved the participation of 14 countries of the region Improving Penaeus Monodon Hatchery Practices ,2007-01-01 The successful farming of tiger shrimp Penaeus monodon in India is mainly due to the existence of some 300 hatcheries whose capacity to produce 12 000 million postlarvae PL annually has provided an assured supply of seed However the sustainability of the sector is still hampered by many problems foremost among these being a reliance on wild caught broodstock whose supply is limited both in quantity and in seasonal availability and that are often infected with pathogens The current low

quality of hatchery produced PL due to infection with white spot syndrome virus WSSV and other pathogens entering the hatcheries via infected broodstock contaminated intake water or other sources due to poor hatchery management practices including inadequate biosecurity is a major obstacle to achieving sustainable shrimp aquaculture in India and the Asia Pacific region Considering the major contribution of the tiger shrimp to global shrimp production and the economic losses resulting from disease outbreaks it is essential that the shrimp farming sector invest in good management practices for the production of healthy and quality seed This document reviews the current state of the Indian shrimp hatchery industry and provides detailed guidance and protocols for improving the productivity health management biosecurity and sustainability of the sector Following a brief review of shrimp hatchery development in India the major requirements for hatchery production are discussed under the headings infrastructure facility maintenance inlet water quality and treatment wastewater treatment biosecurity standard operating procedures SOPS the Hazard Analysis Critical Control Point HACCP approach chemical use during the hatchery production process and health assessment Pre spawning procedures covered include the use of wild domesticated and specific pathogen free specific pathogen resistant SPF SPR broodstock broodstock landing centres and holding techniques broodstock selection transport utilization guarantine health screening maturation nutrition and spawning egg hatching nauplius selection egg nauplius disinfection and washing and holding disease testing and transportation of nauplii Post spawning procedures covered include larval rearing unit preparation larval rearing health management larval nutrition and feed management important larval diseases general assessment of larval condition quality testing selection of PL for stocking PL harvest and transportation nursery rearing timing of PL stocking use of multiple species in shrimp hatcheries and documentation and record keeping Information on the use of chemicals in shrimp hatcheries and examples of various forms for hatchery record keeping are included as Annexes Shrimp infectious myonecrosis strategy manual Food and Agriculture Organization of the United Nations, 2019-09-30 This Shrimp infectious myonecrosis strategy manual provides key information for national policy makers relevant to the development of contingency plans for countries producers and other stakeholders with regard to outbreaks of infectious myonecrosis IMN a viral disease of farmed marine penaeid shrimp that is listed by the World Organisation for Animal Health OIE IMN is a viral disease discovered in 2002 that has caused substantial mortalities in populations of cultured Pacific whiteleg shrimp Penaeus vannamei initially reported in Brazil 2002 and Indonesia 2006 and recently in India 2016 and Malaysia 2018 The purpose of this manual is to provide support for the various components of a national contingency plan The information provided includes 1 the nature of IMN providing a brief review of disease etiology susceptible species and global distribution 2 diagnosis of infection describing the gross clinical signs of disease field diagnostic methods differential and laboratory methods for diagnosis 3 prevention and treatment providing information on vaccination and resistance and immunity of the hosts 4 epidemiology providing information on IMNV s geographic distribution persistence in the environment modes of transmission vectors and reservoir hosts factors

influencing disease transmission and expression and impact of the disease 5 principles of control and eradication describing the methods and 6 policy development and implementation summarizing the overall policy IMN specific objectives problems overview of response options strategies for eradication and control capacity building and funding and compensation **Shrimp Book** Victoria Alday-Sanz, 2010-12-01 A comprehensive source of information on all aspects of shrimp production this reference covers not only the global status of shrimp farming but also examines shrimp anatomy and physiology From nutrition to health management and harvesting issues to biosecurity this well researched volume evaluates existing knowledge proposes new concepts and questions common practices With an extensive review on worldwide production systems this compilation will be highly relevant to research scientists students and shrimp producers Culture: pt.1. Latin America. pt.2. Central America. pt.3. South America, 1992 CRC Handbook of Mariculture James P. McVey, 1993-04-26 The Second Edition of the CRC Handbook of Mariculture provides an extensive comparison of marine shrimp culture techniques from around the world This extensively revised and updated Second Edition focuses on growout systems that have contributed to the production success of shrimp farms and systems worldwide Topics covered include methods for the culture and preparation of algae rotifers Artemia and other foodstuffs for use in crustacean farms recent developments on enriching larval food organisms to improve crustacean diets conditioning and spawning penaeid shrimp obtaining and manipulating shrimp eggs and sperm for controlled reproduction and use of intensive nursery raceways for juvenile shrimp production and discussions of many types of marine shrimp growout systems. In addition culture systems used in Hawaii Ecuador Taiwan and Japan are described in detail Significant new information from Japan on hormonal control of penaeid shrimp maturation and spawning is discussed Marine shrimp and Macrobrachium shrimp diseases by the foremost authorities in the area are presented with detailed photographs and illustrations to help identify diseases The book also includes an update on American lobster larval and juvenile culture Texas Shrimp Farming Manual George William **Assessment of Freshwater Fish Seed Resources for** Chamberlain, Michael George Haby, Russell J. Miget, 1985 **Sustainable Aquaculture** Food and Agriculture Organization of the United Nations, 2007-01-01 Four of the most important resources to aquaculture outside human and technological resources are land water seed and feed Efficient use of these resources are necessary to guarantee optimum production from aquaculture A project Study and Analysis of Seed Production in Small scale Rural Aquaculture was implemented through a desk study and expert workshop held in Wuxi China from 23 26 March 2006 to assess the status of freshwater fish seed resources and supply and its contribution to sustainable aquatic production This publication is presented in two parts Part 1 contains the proceedings and major recommendations of the expert workshop which tackled three major themes a seed quality genetics technology and certification b seed networking distribution entrepreneurship and certification and c how rural fish farmers can benefit from the freshwater aguaseed sector Part 2 contains the detailed outcomes of the desk study consisting of three regional syntheses Africa Asia and Latin America

based on 21 country case studies five thematic reviews quality genetics and breeding seed networks and entrepreneurship seed supply in rural aquaculture farmer innovations and women involvement and three invited papers self recruiting species decentralized seed networking in Bangladesh and establishment of national broodstock centres in Viet Nam Farming John F. Wickins, Daniel O'C. Lee, 2008-04-15 Crustacean Farming Ranching and Culture Second edition John F Wickins and Daniel O C Lee The second edition of an extremely well received book Crustacean Farming deals with all cultivated crustaceans of commercial significance shrimp prawns crayfish lobsters crabs and spiny lobsters and examines the criteria by which both the feasibility and desirability of farming proposals are assessed The characteristics and production methods of farmed and candidate crustacean species are described in sufficient detail to enable areas of profitable involvement to be distinguished form other opportunities presenting only very high risks and possibilities for serious loss Coverage extends right from broodstock acquisition and management through to the operation of hatcheries nurseries and on growing units to key aspects of processing and marketing New to this second edition are ranching and re stocking operations together with the culture of ornamental shrimp and small crustaceans used as live food in fish and shellfish hatcheries The sections on crustacean diseases genetics and nutrition have been extended in the light of recent research advances Examples of investment and operating costs of the different culture options are compared and an analysis of current trends in world crustacean markets is presented to assist in economic and financial appraisal Special consideration is given to the place of crustacean farming within the economics of developing nations in relation to social and environmental impact in order to promote awareness of the wider implications of global developments. The consequences of recent research and technical developments are considered together with concerns over genetic and animal welfare issues Specific areas where further advances in technology are needed to improve the reliability or productivity of farming systems are highlighted This important book is a vital tool and reference work for all those involved with crustacean farming worldwide

Application of Recirculating Aquaculture Systems in Japan Toshio Takeuchi, 2017-12-29 This is the first English book to address the current development of closed recirculating aquaculture systems cRASs in Japan and its implications for industry in the near future It offers an introduction to the topic and discusses the industrial application of cRASs Around Europe cRASs using freshwater have been developed but to date there is little information about cRASs using the saltwater As such the book introduces the technical development of cRASs using the saltwater in Japan and describes measures necessary for their industrialization It also discusses in detail various species e g flounder pejerrey kuruma shrimp white shrimp and abalone which have been raised in cRASs Furthermore it presents wide topics concerning the technological development of aquariums an area in which progressive Japanese techniques dominate Lastly the book also examines CERAS and poly culture in Japan The book is a valuable resource for a wide readership such as local government officers energy industry staff maintenance and system engineers as well as those from the construction agriculture and fishery industries

Aquaculture

Magazine ,2006 Shrimp Culture Technology Prabjeet Singh, Avtar Singh, Anuj Tyagi, Soottawat Benjakul, 2025-02-03 This book focuses on the global scenario of shrimp farming shrimp culture practices shrimp biology taxonomy and major disease challenges along with disease diagnostics in shrimp farming It covers all the recent advancements in shrimp culture technology and serves as a comprehensive guide for all the stakeholders associated with the shrimp industry including academicians students research laboratories shrimp culturists and institutional libraries This book discusses major disease challenges disease diagnostics value addition quality control industry scenario marketing and processing The book chapters are elucidated with pictorial representations and self explanatory flow charts Individual chapters devoted to shrimp pathology major disease challenges pathogen isolation techniques and diagnostic methods are important parts of the book This book is of interest to aquaculture practitioners academicians students and researchers directly or indirectly involved in Shrimps Raymond T. Bauer, 2023-04-08 This book explores the biology shrimp culture World Shrimp Farming ,1992 of decapod shrimps a group of animals known to most people as a nutritious and tasty food item Shrimps are amazingly diverse in size shape coloration behavior and natural history Shrimp fisheries and aquaculture are a vital part of the USA and world economies These crustaceans are key ecological and food web components of marine and freshwater habitats The book synthesizes information on the taxonomic and ecological diversity of shrimps the structure and function of shrimp anatomy antifouling adaptations coloration and camouflage reproductive biology sexual systems mating systems and behavior life history strategies symbioses between shrimps and other organisms shrimp fisheries and aquaculture as well as the evolution and phylogeny of shrimps All chapters are written within an adaptational and evolutionary perspective Important questions about shrimp biology are asked and hypotheses for testing in future research are proposed The book is spiced up with personal anecdotes and observations from the author's research experiences. This book is intended as a comprehensive reference a go to book about the biology of shrimps The text is scientifically rigorous but written in a style intended for a varied readership Thus the book is a valuable resource for budding or working research scientists such as zoologists aquatic biologists fisheries and aquaculture professionals as well as amateur naturalists aquarium hobbyists and interested laypersons As the saying goes a picture is worth a thousand words so that the book is amply illustrated with figures and diagrams The numerous color plates composed of photos contributed by expert colleagues make the world of shrimps come Environment and Aquaculture in Developing Countries Roger S. V. Pullin, H. Rosenthal, John L. Maclean, 1993 alive Aquaculture John S. Lucas, Paul C. Southgate, 2012-01-30 The output from world aquaculture a multi billion dollar global

Aquaculture John S. Lucas, Paul C. Southgate, 2012-01-30 The output from world aquaculture a multi billion dollar global industry continues to rise at a very rapid rate and it is now acknowledged that it will take over from fisheries to become the main source of animal and plant products from aquatic environments in the future Since the first edition of this excellent and successful book was published the aquaculture industry has continued to expand at a massive rate globally and has seen huge advances across its many and diverse facets This new edition of Aquaculture Farming Aquatic Animals and Plants

covers all major aspects of the culture of fish shellfish and algae in freshwater and marine environments Subject areas covered include principles water quality environmental impacts of aquaculture desert aquaculture reproduction life cycles and growth genetics and stock improvement nutrition and feed production diseases vaccination post harvest technology economics and marketing and future developments of aquaculture Separate chapters also cover the culture of algae carps salmonids tilapias channel catfish marine and brackish fishes soft shelled turtles marine shrimp mitten crabs and other decapod crustaceans bivalves gastropods and ornamentals There is greater coverage of aquaculture in China in this new edition reflecting China's importance in the world scene For many Aquaculture Farming Aquatic Animals and Plants is now the book of choice as a recommended text for students and as a concise reference for those working or entering into the industry Providing core scientific and commercially useful information and written by around 30 internationally known and respected authors this expanded and fully updated new edition of Aquaculture is a book that is essential reading for all students and professionals studying and working in aquaculture Fish farmers hatchery managers and all those supplying the aquaculture industry including personnel within equipment and feed manufacturing companies will find a great deal of commercially useful information within this important and now established book Reviews of the First Edition This exciting new and comprehensive book covers all major aspects of the aquaculture of fish shellfish and algae in freshwater and marine environments including nutrition and feed production International Aquafeed Do we really need yet another book about aquaculture As far as this 502 page work goes the answer is a resounding yes This book will definitely find a place in university libraries in the offices of policy makers and with economists looking for production and marketing figures Fish farmers can benefit greatly from the thematic chapters as well as from those pertaining to the specific plant or animal they are keeping or intending to farm Also they may explore new species using the wealth of information supplied African Journal of Aquatic Science Anyone studying the subject or working in any way interested in aquaculture would be well advised to acquire and study this wide ranging book One of the real bibles on the aquaculture industry Fishing Boat World and also Ausmarine In the Wrong Place - Alien Marine Crustaceans: Distribution, Biology and Impacts Bella S. Galil, Paul F. Clark, James T. Carlton, 2011-04-01 In The Wrong Place Alien Marine Crustaceans Distribution Biology And Impacts provides a unique view into the remarkable story of how shrimps crabs and lobsters and their many relatives have been distributed around the world by human activity and the profound implications of this global reorganization of biodiversity for marine conservation biology Many crustaceans form the base of marine food chains and are often prominent predators and competitors acting as ecological engineers in marine ecosystems Commencing in the 1800s global commerce began to move hundreds perhaps thousands of species of marine crustaceans across oceans and between continents both intentionally and unintentionally This book tells the story of these invasions from Arctic waters to tropical shores highlighting not only the importance and impact of all prominent crustacean invasions in the world's oceans but also the commercial exploitation of

invasive crabs and shrimps Topics explored for the first time in one volume include the historical roots of man s impact on crustacean biogeography the global dispersal of crabs barnacle invasions insights into the potential scale of tropical invasions the history of the world s most widely cultured shrimp the invasive history and management of red king crabs in Norway Chinese mitten crabs in England and American blue crabs in Europe the evolutionary ecology of green crabs and many other subjects as well touching upon all ocean shores

Aquaculture Digest ,1988

#### Vannamei Hatchery Manual Book Review: Unveiling the Magic of Language

In an electronic era where connections and knowledge reign supreme, the enchanting power of language has be more apparent than ever. Its power to stir emotions, provoke thought, and instigate transformation is truly remarkable. This extraordinary book, aptly titled "**Vannamei Hatchery Manual**," compiled by a very acclaimed author, immerses readers in a captivating exploration of the significance of language and its profound impact on our existence. Throughout this critique, we shall delve in to the book is central themes, evaluate its unique writing style, and assess its overall influence on its readership.

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