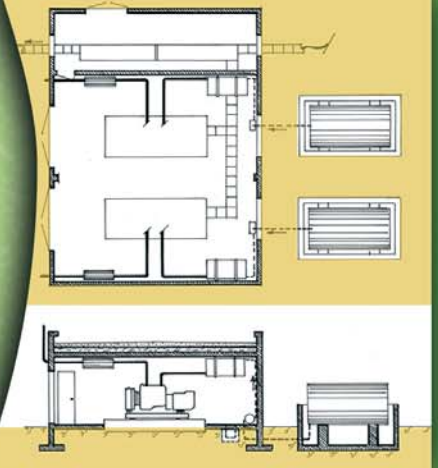
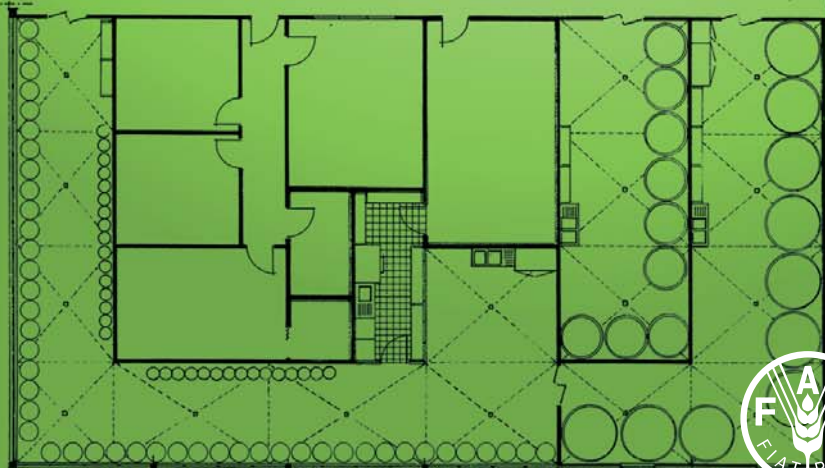


Manual on Hatchery Production of Seabass and Gilthead Seabream Volume 2



Food
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Manual on Hatchery Production of Seabass and Gilthead Seabream

Volume 2

by

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PREPARATION OF THIS DOCUMENT

This is the second and final volume of a manual on hatchery production of seabass and gilthead seabream. It is part of the programme of publication of the Inland Water Resources and Aquaculture Service (FIRI). The manual has been written based on the direct experience of technicians and managers of commercial hatcheries operating in the Mediterranean. It is intended to assist both technicians entering this field as well as investors interested in evaluating the complexity of hatchery production of seabass and gilthead seabream.

The manual has been prepared by the authors under the overall support and supervision of FIRI and direct technical coordination of Mario Pedini, Aquaculture and Fisheries Development Officer of the FAO/World Bank Cooperative Programme. Numerous colleagues have collaborated, contributing comments to sections of the manual, and ideas and assistance for its finalization. The contribution to this volume of Brigide Loix, STM Aquatrade Srl, Lamar Srl Udine, Licinio Corbari, Maribrin Srl, Massimo Caggiano, Panittica Pugliese Spa, are greatly appreciated. The assistance in the editorial work and final presentation and graphics given by José Luis Castilla, Alessandro Lovatelli, André Coche, Patrizia Ravegnani and Emanuela d'Antoni has also been invaluable.

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ABSTRACT

Seabass and gilthead seabream are the two marine fish species which have characterized the development of marine aquaculture in the Mediterranean basin over the last three decades. The substantial increase in production levels of these two species, initially of very high value, has been possible thanks to the progressive improvement of the technologies involved in the production of fry in hatcheries. As a result of this technological progress, more than one hundred hatcheries have been built in the Mediterranean basin, working on these and other similar species. At present the farmed production of these two species derived from hatchery produced fry is far greater than the supply coming from capture fisheries.

The development of these techniques, based originally on Japanese hatchery techniques, has followed its own evolution and has resulted in what could be called a Mediterranean hatchery technology that is still evolving to provide higher quality animals and to reduce the costs of production. This is a dynamic sector but it has reached a level of maturity which merits the production of a manual for hatchery personnel that could be of interest in other parts of the world. The preparation of the manual has taken several years, and due to recent developments has led to substantial revisions of sections. The manual is not intended to be a final word in hatchery design and operation but rather a publication to document how the industry works. The authors have preferred to include proven procedures and designs rather than to orient this publication to research hatcheries that are not yet the standard of the sector.

The manual has been divided in two volumes. The first one was finalized in 2000, and covered historical background, biology and life history of the two species, especially hatchery production procedures. This second volume is divided in four parts. In the first, it tries to cover the aspects related to hatchery design and construction, from site selection to hatchery layout, and description of the various sections of a commercial hatchery. The second part covers engineering aspects related to the calculation and design of seawater intakes, pumping stations, hydraulic circuits, and pumping systems. The third part deals with equipment in the hatcheries such as tanks, filters, water sterilizers, water aeration and oxygenation, temperature control, and auxiliary equipment. The last part covers financial aspects. This section, rather than explaining the way to calculate cash flows, tries to highlight aspects that managers and investors should consider when entering this business. Volume two also includes a series of technical annexes, and a glossary of scientific and technical terms used in the two volumes.

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