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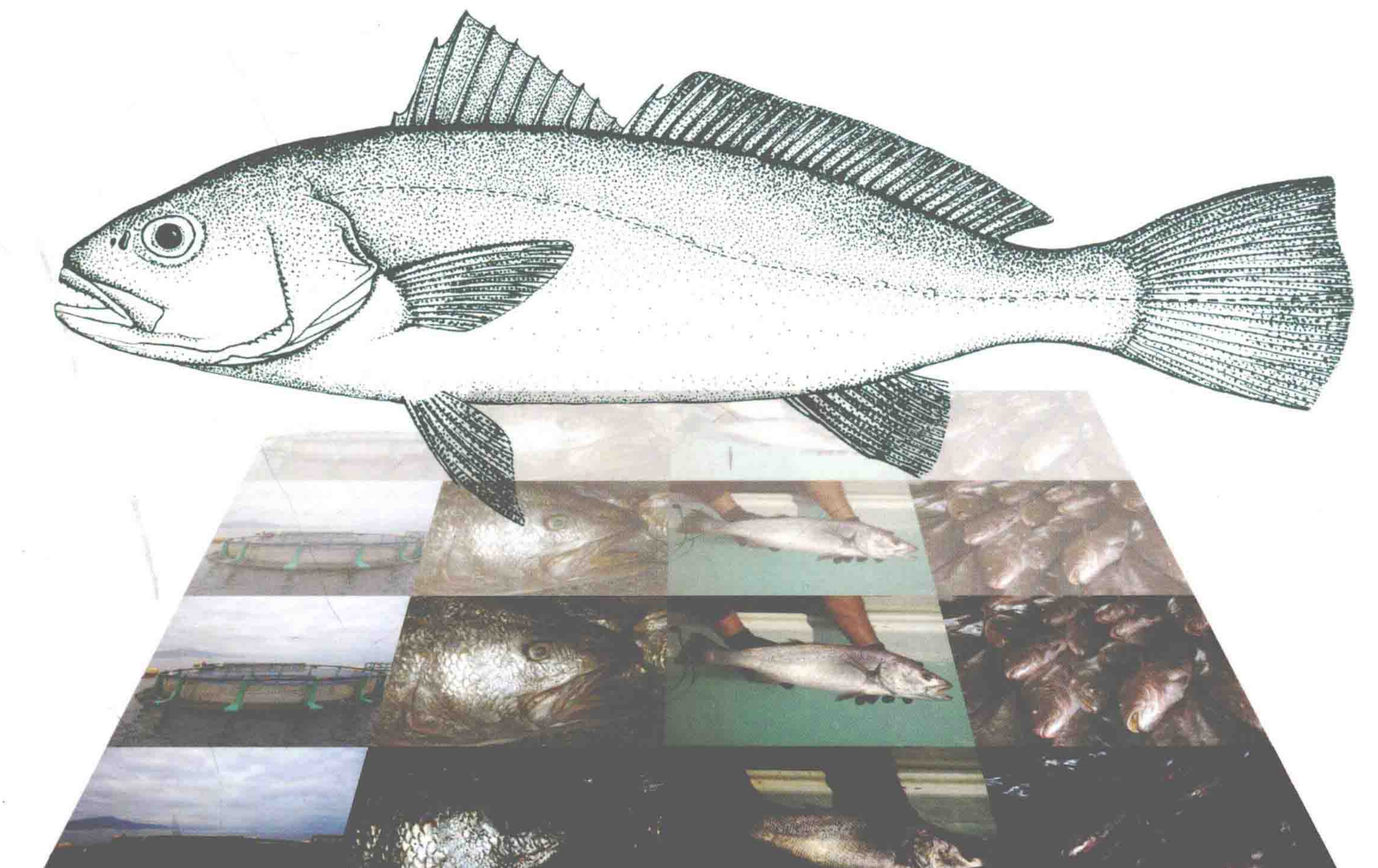
No. 89 2010

PRESENT MARKET SITUATION AND PROSPECTS OF MEAGRE (*ARGYROSOMUS REGIUS*), AS AN EMERGING SPECIES IN MEDITERRANEAN AQUACULTURE



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PRESENT MARKET SITUATION AND PROSPECTS OF MEAGRE (*ARGYROSOMUS REGIUS*), AS AN EMERGING SPECIES IN MEDITERRANEAN AQUACULTURE

by

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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PREPARATION OF THIS DOCUMENT

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This study "Present market situation and prospects of meagre (*Argyrosomus regius*), as an emerging species in Mediterranean aquaculture" was commissioned by GFCM to Marie Christine Monfort, seafood marketing consultant. The main outcomes of this report were presented and discussed during the GFCM-CAQ Workshop "Development of a strategy for marketing and promotion of Mediterranean aquaculture (MedAquaMarket)" held in Tangier, Morocco, 27-28 October 2009.

The research was based on direct interviews run with meagre fish producers and traders (see Appendix 2), consolidated by existing production data statistics.

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[1] The MedAquaMarket Project, MTF/INT/943/MUL, is operative since April 2008.

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ABSTRACT

The present document review the aquaculture activities and the market situation and prospect of the meagre (*Argyrosomus regius*) in the Mediterranean countries. Meagre culture started in France and in Italy in the late '90s and is developing in the Mediterranean Region, jumping from a few tonnes in 2 000 to over 10 000 tonnes expected in 2010, highlighting the appearance of a new aquaculture species on the market. Meagre is currently sold by a limited number of players on niche segments (small volumes at relatively high prices to selected market segments). From a market viewpoint, meagre is endowed with intrinsic values such as attractive fish shape, good processing yield, good nutritional values, low fat content, excellent taste, firm texture suitable for a large variety of recipes. Yet it is very little known to end consumers. Meagre production is expected to grow fast in the medium term and ex-farm prices will probably drop under the pressure of increasing supply. This is what will most likely happen if the coming increased production converges towards favourable markets like Spain, Italy and Portugal. This report draws the picture of the existing market of meagre and describes the possible routes for development. Indeed, based on its aquaculture characteristics, meagre has the potential to become a mass market species, moving from the present position of a niche species with a limited production directed to selected market segments. The paper recommends some actions to be undertaken to consolidate good conditions for future growth and to reduce commercial risks. Most of the information used originates from national data and from the author's personal estimates.

FIGURES, PHOTOS AND TABLES

ABBREVIATIONS AND ACRONYMS

APROMAR	Asociación Empresarial de Productores de Cultivos Marinos de España
CooPAM	Cooperativa Produttori Acquacoltoltori Maremmani
DPMA	Deutsches Patent und Markenamt
EU	European Union
FAO	Food and Agriculture Organization
FEAP	Federation of European Aquaculture Produceres
ISMEA	Istituto di Servizi per il Mercato Agricolo Alimentare
MARA	Turkish Ministry of Agriculture and Rural Affairs
OFIMER	Office National Interprofessionnel des produits de la mer et de l'aquaculture (France)
PUFA	polyunsaturated fatty acids

EXECUTIVE SUMMARY

Meagre, *Argyrosomus regius,* is farmed in Europe since the late nineties. The activity started rather simultaneously in France and in Italy with the first commercial sized fish being traded in the late '90s. The total aquaculture production has jumped from a few tonnes in 2 000 to around 4 000 tonnes in 2008, and is expected to be over 10 000 tonnes in 2010, highlighting the appearance of a new cultured species on the market.

This report draws the picture of the existing market and describes the possible routes for development. It recommends some actions to be undertaken to consolidate good conditions for future growth and to reduce commercial risks. Most of the information used originates from national data and from the author's personal estimates.

Based on its aquaculture characteristics meagre has the potential to become a mass market species, moving from the present position of a niche species with a limited production directed to selected market segments.

Niche versus mass market

Meagre is currently sold by a limited number of players on niche segments (small volumes at relatively high prices to selected market segments). The main traditional markets for farmed meagre include Italy and Spain, and new markets are being available day after day. A certain category of commercial catering, namely medium class restaurants and ethnic restaurants including sushi eating places, is looking with increasing interest to this new fish, and there are potentialities for further sales on this segment in most European countries.

Meagre is one of the best potential candidates for large scale farming in Europe due to its favourable farming conditions. Demand for juveniles is strong and the production of commercial size fish is expected to grow fast in the short term. Some 8 to 10 million juveniles were sold to European farms in 2008. Taking an average weight in-take of circa 2 kg within two years and a 10 percent loss, an expected of up to 14 000–18 000 tonnes could be placed on the market in 2010. The industry show signs to enter into mass production.

Meagre farming will be profitable in the medium term provided that the fish produced will be price competitive to substitute wild fish. Where will the fish be positioned is one of the key remaining issues. Will it compete with intermediate range price such as marine white fish species (cod, haddock, etc.) or with low priced fish such as Nile perch or pangasius. The answer lies partly into producers' future strategies and tactics.

Market potential

From a market viewpoint, the fish is endowed with intrinsic values: attractive fish shape, good processing yield, good nutritional values, low fat content, excellent taste, firm texture suitable for a large variety of recipes. Yet it is very little known to end consumers. On a global market with dramatic seafood shortage, there is room for locally supplied meagre fish, provided that it is price competitive and gains some reputation. Moreover, this species can be processed into portions (fillets, loins) and supply the growing segment for portion sized product. At the processing stage, there is large room for productivity improvement and cost reduction in the medium term.

Market coordination and communication to consumers

Meagre production is expected to grow fast in the medium term and ex-farm prices will probably drop under the pressure of increasing supply. This is what will most likely happen if the coming increased production converges towards favourable markets like Spain, Italy and Portugal.

The fish is not known, and even less known are its organoleptic and nutritional qualities. Therefore it is highly recommended to inform buyers. A well structured communication campaign, with the relevant choice of messages, channels, targets and partners would contribute to prepare the markets for the arrival of this new aquaculture species and at best create some demand for it.

CONTENTS

1. INTRODUCTION

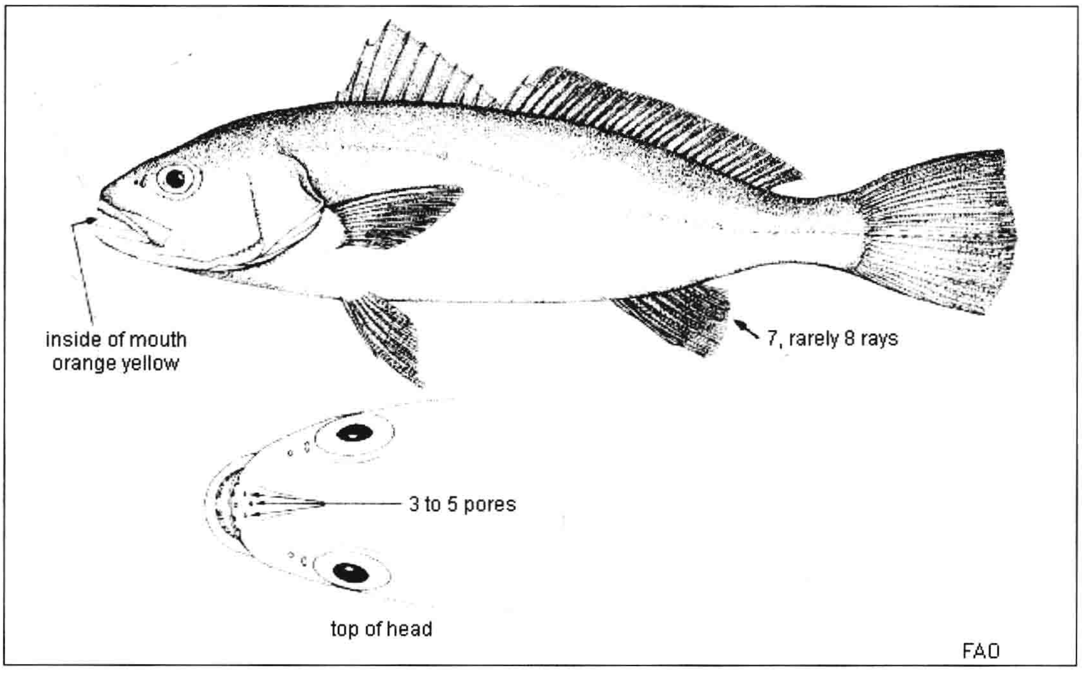
Meagre, *Argyrosomus regius,* (Figure1) is farmed in Europe since the late nineties. The activity started in Europe rather simultaneously in France and in Italy with the first commercial sized fish being traded in the late '90s. Spain entered into the business in 2004, followed in 2007 by Greece and Turkey. Egyptian production started later on. The total aquaculture production has jumped from a few tonnes in 2000 to around 4 000 tonnes in 2008 (FAO, 2010), and over 10 000 tonnes in 2010, highlighting the appearance of a new cultured species on the market.

This report draws the picture of the existing market and describes the possible routes for development. It recommends some actions to be undertaken to consolidate good conditions for future growth and to reduce commercial risks. Most of the information used originates from national data and from the author's personal estimates.

Meagre has the potential to become a mass market species, moving from the present position of a niche species with a limited production directed to selected market segments.

More information on the biology and the culture of this species can be found in the FAO Cultured Aquatic Species Information Programme: *Argyrosomus regius*, reported as Appendix 3.

Figure 1 – Morphological characteristics of meagre (from Schneider, 1990)



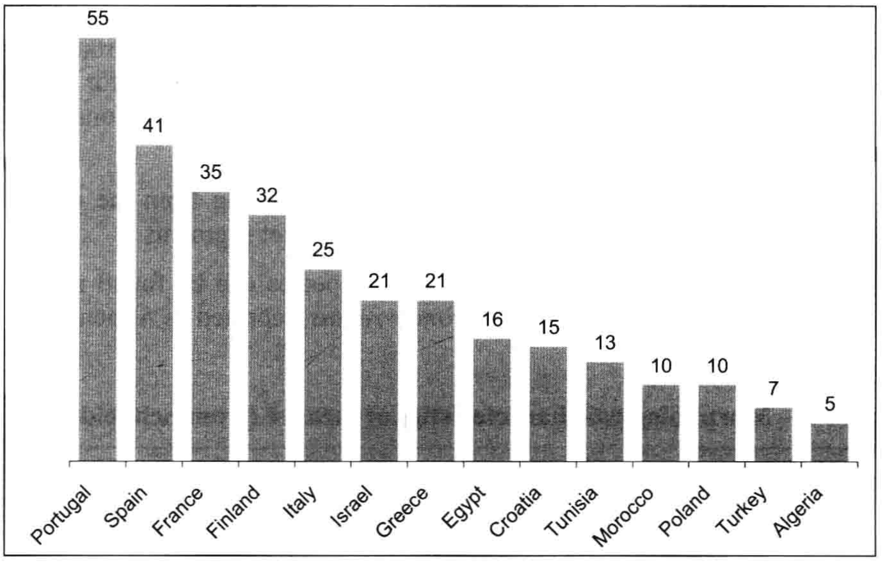
2. THE EUROPEAN MARKET FOR SEAFOOD: CONTEXT

2.1 Overall situation

The European market for seafood is characterised by a dramatic deficit. The continent is extremely dependant upon external supplies. In 2008, the EU imports of fresh, frozen and canned seafood totalled €30 billion (Eurostat Statistical Books, 2009 edition), of which €16 billion originating from non EU countries. The largest importing countries are Spain with imports from non EU countries worth €4.7 billion, France with €3.9 billion and Italy with €3.7 billion. In 2008, Europe exported seafood worth €2.7 billion. Total imports from both within the EU and from non EU countries equalled 15 million tonnes in live weight, or 9 million tonnes in output weight.

Seafood supply varies greatly by country and within some large countries by region (Figure2). Apparent consumption in Poland and Hungary hardly reaches 10 kg per capita per annum, whereas in Spain it is well above 40 kg. Annual per capita seafood consumption in Portugal meets a record with over 55 kg.

Figure 2 – Seafood supply, in kg per capita in 2005



Source: FAO (2007)

Not only does the volume, but the type of product purchased greatly vary by country as well. In southern European countries, the assortment for sale offers a wide range of species whereas in northern countries it is limited. In Germany, for example, four species (Alaska pollock, herring, salmon, tuna) total over 60 percent of the overall consumption, whereas in Spain and in France the four most consumed species hardly total a third of all sales.

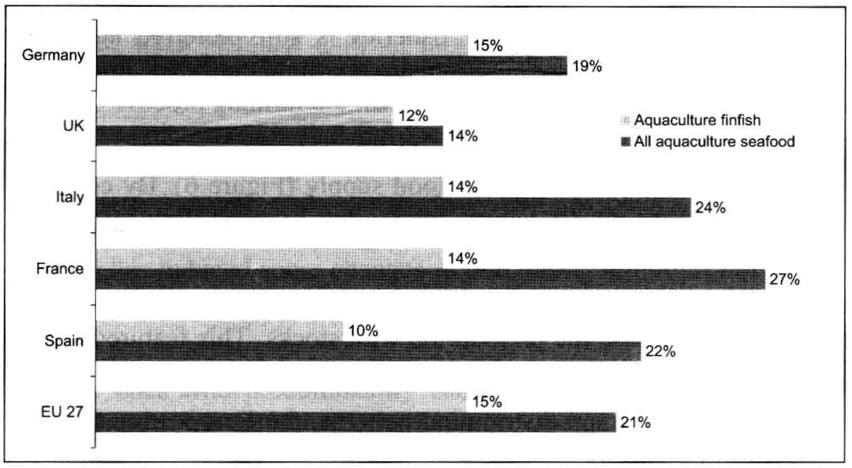
In Mediterranean countries, purchase of whole fish sold in bulk is still common, whereas on north European markets, prior to be sold to end buyers, usually fishes have been processed. In most cases, it has been processed into a portion-sized packaged item. In the United Kingdom of Great Britain and Northen Ireland (UK), 90 percent of all fish is packaged and branded, whereas in Spain this proportion drops down to 35 percent (Monfort, 2008). In this latter country seafood is still dominantly sold in bulk, though this share is declining.

2.2 The market for farmed seafood

Seafood consumption in the European Union (EU 25) reached 13.3 millions tonnes in 2007, in equivalent live weight (Paquotte, 2010, pers. comm.): 10.5 million tonnes from capture fisheries, 2.8 million tonnes from aquaculture (Figures 3–5). This consumption concerned 1.5 million tonnes of farmed finfish and 1.3 million tonnes of farmed shellfish.

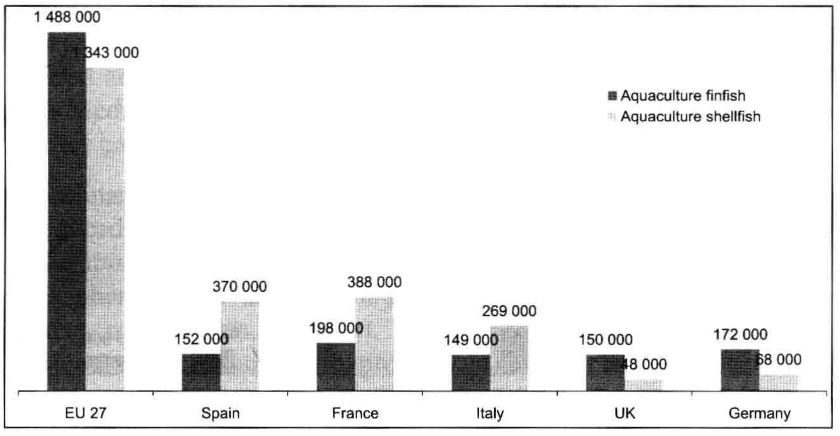
The importance of farmed finfish in total EU imports has grown twofold, from a 7 percent market share of all seafood in the early '90s to 15 percent in 2007. Atlantic salmon is highly responsible for this movement observed in the '90s. More recently, the massive influx of low priced farmed freshwater fish, such as pangasius and tilapias, has been visible on several major markets. Only five years after its introduction on the French market, pangasius occupies now a significant 5 percent of the market for fresh fillets sold in supermarkets.

Figure 3 – Europe 27 seafood supply balance in 2007: market share of aquaculture products



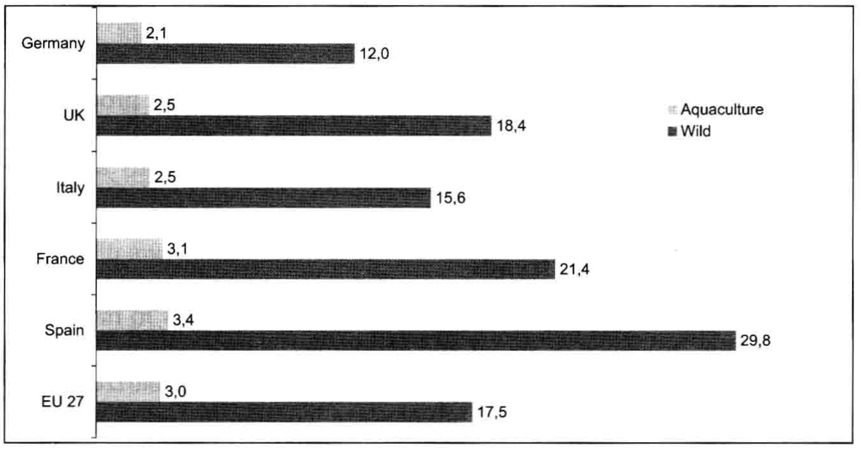
Source: Paquotte, (2010, pers.comm)

Figure 4 – Aquaculture seafood supply in 2007 (tonnes)



Source: Paquotte, (2010, pers.comm)

Figure 5 – Finfish seafood supply in kg per capita, by production mode in 2007



Source: Paquotte, (2010, pers.comm)

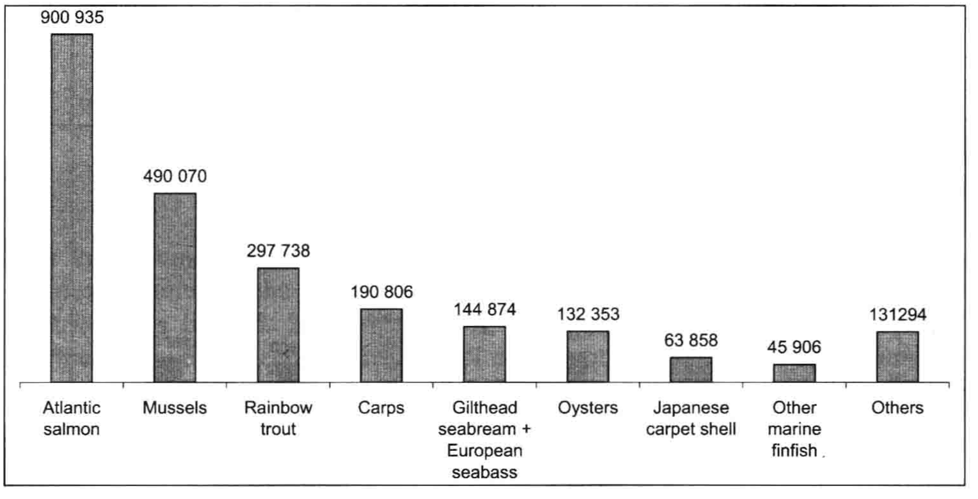
The consumption of aquaculture finfish is quite homogeneous across countries, with per capita consumption ranging from 2 to 3 kg, whereas shellfish consumption reports high variation by countries. In many regions fish from capture fisheries is still preferred against the cultured one (Paquotte, 2007). In the UK and Germany, consumers are quite confident in aquaculture techniques, whereas in France, Italy and Spain, they do not fully trust the farming process. .

The market share of aquaculture *vs* wild products is still low, but it is growing. In 2007, for Europe 27, farmed seafood accounted for a fifth of total seafood supply (Figure 6). By country, it varies from a few percent (Netherlands, Ireland) to values above the average (France: 27 percent, Germany: 19 percent, Italy: 24 percent, Spain: 22 percent).

According to some opinion leaders and some consumers, farmed fish carries the positive image of a product which contributes to release the pressure on wild stocks. This feature may have an impact on its consumption.

When it comes to products, origin and distribution patterns, the European market is characterised by great variations by countries. Each national market has its own characteristics, though common traits may be found in neighbouring countries. Unfortunately to date there is no observatory or common data base which provides comparative information.

Figure 6 – Aquaculture seafood production in 2007 in Europe (tonnes)



Source: FAO (2009)

Consumption of aquaculture seafood has dramatically increased in recent years with salmon and shrimp being the two winners of this trend. European sea bass and gilthead sea bream are two other species which have gained market shares.

Farmed seafood has also become an excellent raw material for the seafood processing industry thanks to its year round availability, stable and relatively low price. This is especially true for salmon, shrimp and more recently for pangasius, which are all actually transformed into a large variety of end-products.

2.3 Consumption and distribution trends

The demand for seafood, as for food in general, has experienced changes in the past decades and will continue to evolve under the influence of social and economic factors. The major changes observed in recent time and the visible impact on farmed fish demand are hereby summarized.

Changing eating habits

Eating habits have changed in the past decades. What goes into shopping trolleys and what the catering industry buys is different compared to a couple of decades ago. This is due to important social and economic changes. The most drastic ones, which have a clear impact on food consumption, are the following:

- Family structures have changed with an increasing number of singles. This stimulates the demand for portion-sized products (whole fish, portioned fillets, slices).
- The gloomy economic situation that Europe is facing, with enlarged low-income population, has favoured low price sub-segments. When it comes to distribution, development of low price retailers (hard discount) and caterers (fast food, low budget restaurants, sandwiches) are the most visible effects. In the catering industry, the need to control cost in order to maintain competitiveness has induced some changes in purchasing attitudes. For example caterers give their preferences to products with a known yield or with no waste, such as pre-packed fixed weight portions.
- Women are the ones who predominantly choose food products for domestic consumption. Hence, they still perform the gatekeeper function, operating as filters for the whole family. Compared to one or two generations ago, women today have a higher education level and enjoy a higher employment rate. The former gives them easier access and a better understanding of a wide spectrum of information (daily newspapers, women's magazines, doctors' prescriptions, etc.), whereas the latter stimulates their demand for time-saving products. These higher educated consumers are also more health-oriented.
- The development of new eating habits (snacks, fast food, etc.) versus the traditional meal model has been thoroughly investigated by sociologists. The typical south European pattern of three structured and regular daily meals is weakening. Though "fast food" still meets some resistance in Mediterranean countries, due to the important social role of meals, snack food and sandwiches consumption is increasing.
- The loss of culinary expertise that traditionally passed from generation to generation is mainly due to the reduced time spent in the kitchen by both those who cook and who know the recipes (generally the mother/grandmother) and those who should learn from them (children/young adults). This phenomenon has stimulated the demand for ready-to-eat food, including all dishes (starters, main dishes, desserts). Pre-prepared items such as fish portions with some culinary content (sauce, bread-crumb, pre-cooked) are increasingly appreciated.

Market competition and promotional campaigns

The market's moderate increase exacerbates competition between operators involved in the food chain. Major protein producers compete to gain access to the limited space on supermarket shelves and to make their products become in demand by end users. In this context, food manufacturers develop aggressive marketing and commercial policies to attract buyers and encourage their loyalty. All food producers, through individual or collective initiatives, spend a lot of money in trying to understand consumers' motivation, through advertising, promoting and ultimately publicly arguing about the benefits of their products.

In February 2009, the Norwegian industry decided a NOK20 million (€2.3 million) marketing campaign for cod. The budget was to be channelled through the Norwegian Seafood Export Board, and the Norwegian government was contributing to NOK11.5 million. The marketing actions attempted to boost the demand of *klippfish* (dried and salted cod) in Portugal and fresh and frozen cod in Sweden, France, Spain and elsewhere.

As far as products with private labels are concerned, price is the primary factor for buying these products. When it comes from fresh produce, most retailers and large-scale wholesalers have recently created their own brands attached to "own supply chains" which they control.

Large-scale wholesalers selling at national scale to the food service industry have also developed their own labels which ensure safety and quality to the consumers. In France, Metro, the largest cash and carry chain, sells 30 percent of its fresh seafood under its own brand "Filière metro", created in 2000.

Low price hard discount retailers are developing fast in terms of turnover and number of outlets. The most important buyers in these new types of retailers are of low-income, young adults and large families (households > 5 people).

Price promotions make consumers change their purchasing decisions. When clearly advertised, also in free catalogues distributed to thousands of families by retail chains, price discounts boost sales by as much as two to three times compared to normal. In supermarkets, 15 percent to over 30 percent of all seafood is sold during promotional campaigns.

3. THE PRODUCT AND PRODUCT FORMS

3.1 Natural distribution and capture fisheries

Meagre is distributed in the East Atlantic Ocean, from Mauritania in the south to Norway in the north and in the Mediterranean Sea. Global fisheries production ranges from 5 000 to 10 000 tonnes per annum. The production of meagre from capture fisheries in Europe (geographical perimeter) is low, ranging from a few hundreds tonnes to 1 500 tonnes in the different countries (Table 1). It is supplemented by imports from Morocco. No figures could be provided (this fish is not identified by the international trade statistics); thus, several traders mentioned purchase of considerable volumes in Spain and Portugal.

Wild meagre is common in two regions in western Europe: south Spain and Portugal and west France. In both areas landed fish may have a large size (commonly above 5 kg) and the fish is very appreciated by local buyers.

Table 1 – Production of meagre from capture fisheries (tonnes)

	1980	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total world[a]	3 207	5 261	4 108	4 046	5 926	6 340	8 941	9 337	8 250	4 840	5 724
Egypt	269	113	776	1 038	1 372	1 414	2 411	1 232	2 107	1 602	1 202
France		179	189	162	156	101	525	1 263	1 356	1 204	13
Ghana										233	2 042
Guinea–Bissau			394	372	730	337	310	277	260	240	240
Israel	10	67	288	223	273	249	144	6	2	22	22
Mauritania		2 000	600	600	600	950	1 200	1 500	900	1 320	1 230
Morocco*	1 160	2 544	1 755	1 534	2 047	3 102	4 160	4 722	3 387	**	**
Portugal	937		4	6	36	40	46	172	154	143	159
Spain	816	94									
Turkey	15	193	70	50	63	75	62	96		60	56

Source: FAO (2010a)
** data from FAO (2008). ** In FAO (2010a), 2007 and 2008 meagre were grouped with all Sciaenidae.*
[a] *total world production reflects the fact that in some years and countries meagre was grouped with all Sciaenidae.*

In France meagre capture fisheries is highly concentrated in the west regions, near the Gironde mouth. After first sale in local fish auctions (where the fish fetches €2–7/kg, depending on the size and on the fishing gear), meagre is mainly sold either to restaurants or to independent fishmongers in the region. Note that part of the French production which is caught by line is marketed with a label fixed on the gills, which guaranties quality, freshness and traceability.

In Portugal the fish is well known and highly appreciated in the south of the country (Algarve). Landed wild fish may be of large size (over 5 kg).

3.2 Production from aquaculture

Meagre culture started in the late '90s following an agreement between Italian and French producers, with the first commercial production in 1997 in France. Fingerlings produced in Sète were grown in farms near the Orbetello lagoon, in Tuscany, on the west coast of Italy. Its culture then spread to other Mediterranean countries, and productions are rapidly increasing (Table 2). Global production (slaughtered volumes in 2008) on the northern bank of the Mediterranean Sea is estimated at 2 500 to 3 000 tonnes. Based on the fact that some 8 to 10 million juveniles have been sold in 2008 to European farmers, 2010 production may be well above 10 000 tonnes. More than half of this will be produced in Spain.

Table 2 – Production of meagre from aquaculture 1997–2008 (tonnes)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
France	30	30	30	33	35	165	100	147	267	282	282	300
Italy						131		696	186	172	192	300
Spain							3	16	347	489	251	1 374
Portugal									47	47	25	15
Greece												*240
Turkey												**512
Malta										#28	#12	#12
Egypt												2 031

*Source: FAO (2010b), * Barazi (2010, pers. comm), ** Deniz (2009), # Vassallo Agius (2010, pers. comm.)*

In France, according to official data from the Ministry of Agriculture, production reached 282 tonnes in 2006, 380 tonnes in 2008. Currently three farms (in Sète, Cannes and Marseilles) are producing meagre.

In Italy, according to CooPAM, the Italian largest producer, production was expected to reach 350 tonnes in 2009, with an estimated ex farm price of €6.50/kg.

In Spain the 2007 production reached 800 tonnes and the 2008 forecast production was over 1 500 tonnes (Apromar - Spanish producers association- pers. comm.).

In Greece, 2008 production reached 240 tonnes and should be around 500 tonnes in 2009 (Barazi, 2010, pers. comm.). The 600 000 fry stocked in farms in 2008 are expected to result in an estimated production of 1 200 – 1 600 tonnes in 2010.

In Turkey, three companies lead meagre culture: Ugurlu Fish Products Inc., Kılıç Sea Products Inc (respectively with a production capacity of 200 and 80 tonnes per year), and Ege-Mar Sea Products Inc., which has been producing commercial size meagre since 2005, with a production of 512 tonnes in 2008 (Table 3) (Deniz, 2009).

Table 3 – Turkey: EgeMar Company meagre production in 2005–2008

Year	Production (t)	Year	Production (t)
2005	836	2007	1 500
2006	-	2008	512

Source: EgeMar Sea Products Inc., in Deniz (2009)

Four hatcheries started juveniles' production in 2008, with a total annual production capacity of 5 600 000 meagre fingerlings (Table 4).

Table 4 – Turkey: hatcheries and their production capacities for meagre juveniles

City	Company	Capacity (fingerlings/year)
Aydın	Ege-Mar Inc.	2 500 000
Izmir	Akuvatur Inc.	2 000 000
Izmir	Turkuaz-Marin Inc.	600 000
Mugla	Kılıç Holding Inc.	500 000
	TOTAL	5 600 000

Source: MARA Data base (in Deniz, 2009)

Meagre fish is today sold by a limited number of companies on niche markets. Price was €9/kg for export in 2008 (Deniz, 2009). There is one processing company: Ugurlu Balık, which deals with seabass, seabream and meagre.

In Egypt, Sadek *et al.* (2009) estimated that around 420 hectares of earthen ponds in the Dibah Triangle Zone (Damietta and Port Said Governorates) are cultured with meagre each year, as capture based aquaculture, with a potential production of around 3 000 tonnes/year, and an average production of 5–7 tonnes/ha/year. The culture is based on the collection of wild finfish fry and juveniles along the Nile delta, which represents the reproduction and nursery area in the eastern Mediterranean (El-Hehyawi, 1974). Between 2 to 5 million fry and fingerlings catch per year were estimated by Sadek *et al.* (2009).

Meagre is cultivated on small scale also in Malta (12 tonnes in 2008, R.Vassallo Agius, 2010, pers. comm.) and in Croatia, where culture started in 2009, with the stocking of about 100 000 fry in cages (V. Franičević, 2010, pers. comm.).

Fry production started in France, but has recently spread to Turkey, Italy, Morocco hatcheries.

3.3 Commercial names

Meagre is a species only known by consumers in some limited areas. In most countries it has several local names:

in France: ***maigre*** (most common name), *courbine, aigle* or *grogneur.*

in Spain: ***corvina***; yet *corvina* also refers to other species of the Sciaenidae family.

in Portugal: ***corvina***.

in Great Britain: **meagre**, craoker and drum.

in Italy: ***ombrina bocca d'oro***; *figao, figou, figaro*, in Liguria; *ombra, ombreta, ombria* in Veneto and in Friuli-Venezia Giulia; *bocca gialla* in Toscana; *ombrina* in Marche, Abruzzo, Lazio, Sicilia; *vocca d'oro* in Campania and Puglia; *umbrina di canale* in Sardegna. *Ombrina* also refers to the shi drum, *Umbrina cirrosa* (Tortonese, 1975).

3.4 Product forms

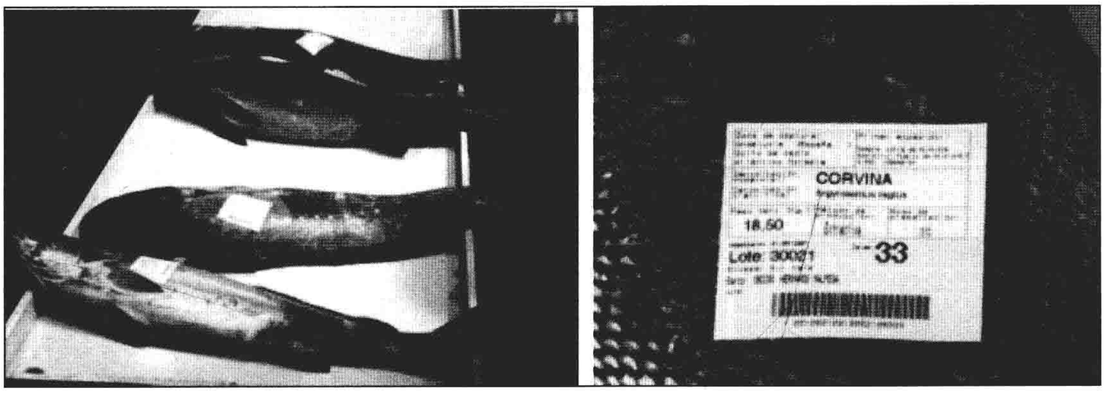
Farmed meagre is mainly sold fresh. The bulk is traded whole head on, ungutted or gutted depending on the end market. Few fish are sold at size below 1 kg; over 50 percent is sold at size from 1 kg to 2 kg; a third at size above 2 kg. Indeed, portion-sized fish (400–700 g) are not considered suited for marketing as this size fish have a large head, large bones, little flesh, and are not very tasty. In Spain, small sized fish (less than 1 kg) are considered too dark (*negra*), and consequently not very attractive.

Only small volumes are processed to be frozen. Smoked fillets were mentioned by farmers as a possible output, yet no commercial producers were spotted. Attempts to sell farmed meagre to

Japanese sushi restaurants received good responses, as this lean fish seems to have the quality to be eaten raw.

Considering that small size fish are not suited for sales, that meagre grows quickly to size suitable for being processed into fillets, that the market for whole fish is shrinking whereas demand for portion sized product is growing, the future for meagre fish is seen into the production of ready-to-cook portions.

Photo 1 – Meagre in a fish-market on the Bay of Cádiz (southwestern coast of Spain).



The four fish weighed about 20 kg or so each (courtesy of T. Billany, 2007)

4. DISTRIBUTION CHANNELS

4.1 Present situation

Up to 2008, farmed meagre was mainly sold in Italy, Spain and Portugal. Recently, Egyptian production is sold even in Israel.

The majority of today production is sold to commercial catering through wholesalers. Restaurants constitute the number one outlet in Italy, Spain, and France. Restaurants buy it whole and cut the fish on site, or pre-cut portions processed in the farming unit.

Meagre is normally sold at a size of around 2.5 kg to restaurants or processing plants producing fillets. It is not yet convenient neither economical to sell the fish at around 300–400 grams as portion size fish, as in the case of seabream and seabass, for the points discussed above but also because of the high price, largely made by expensive fingerlings.

Whole fish are sold to independent fishmongers as well, who cut the fish into slices or fillets. Limited volumes have reached the end consumers through supermarkets; some have been identified in Italy and Spain.

4.2 Prospects

Meagre is a promising aquaculture species for its high grow rate (it can reach 2.5 kg in 24 months; around 1 kg per year, depending on culture conditions) and excellent conversion rate (0.9–1.2 depending on the feed) (Poissons du soleil, pers.comm).

A size of 2.5–3 kg is suitable for the production of fillets.

Considering the large quantities of juveniles produced and sold to farmers in 2008, a large quantity of market size fishes should be on sale in the near future (2010). The probable consequent drop down of prices will offer easier access to consumers and restaurants.