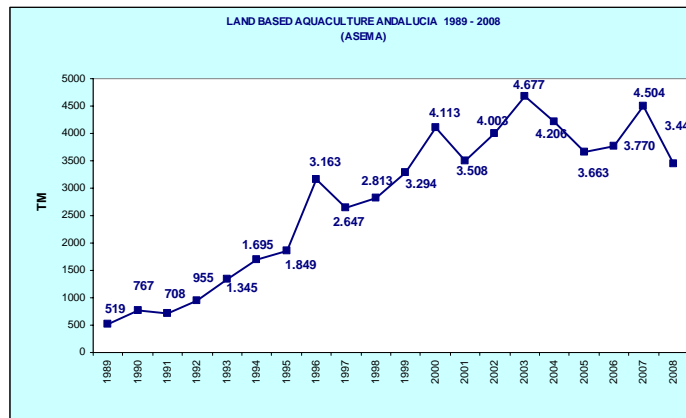


In the north of Spain exists well established molluscs cultures in floating platforms and estuarine sandy shores of several rivers. Some molluscs' aquaculture takes also place in the Delta of Ebro River in the Mediterranean side and also in some marshes in Cadiz and Huelva in the south Atlantic coast.

Extensive and semi-intensive crustaceans production was produced both in Mediterranean and south Atlantic coast, but at present times production of shrimp *Marsupenaeus japonicus* and small shrimp *Palaemonetes varians* is mainly supported by three farms in Andalucía.

Fish production in extensive or semi-intensive farms in the Mediterranean coast is almost nil because all the farms have given up this activity.

Fish production in south Atlantic coast can be seen in the graphic. It is difficult to know exactly the production in coastal ponds and confined systems, because is hard to find records about small farms or pure extensive production units.



It seems that for the last five years total production in extensive and semi-intensive aquaculture has been relatively stable. This trend will probably drop in 2009 and 2010. Commercial situation is very hard at the moment because there is a big offer of seabream, seabass and molluscs coming from different big companies in Europe and the prices go down under production costs. This particular situation started in 2008 and it is clearly affecting farms viability.



Forecast suggests that production will drop in 2010- and some companies will reduce their production, and the smaller ones could even stop it. Some farms have new projects to be done in the next future in order to improve or increase their production but it is difficult to know how will be the increase of production in the coming years.

We are now facing a hard situation that it is supposed not to last very much but extensive and semi-intensive farms have to optimize production costs.

Average production costs of seabream/seabass in Europe can be seen in the table.

Production costs €/kg (Stirling 2004)	€/kg	%	
Feed	1,5	35	
Fry	0,79	19	
Labour	0,71	17	
Packing	0,3	7	
Other	0,33	8	
Depreciation-finance	0,6	14	
Total	4,23	100	

The cost production in semi-intensive fish farming systems is higher than intensive cage systems because of electric and oxygenation cost, and labour efficiency. This difference could be between 0.6 to 1 €. Final price of extensive and semi-intensive products used to be higher than the price of intensive products but this fact is not enough at this moment.

It is very important to get higher prices for the products and reduce the cost production. Some of the technical lines to work with in order to reduce costs are:

- Fry cost: election of good quality juveniles. It is very important to grow good fish not only free of deformities but with a good growth rate. Some batches of juveniles grow better than others. A difference of 6 month in the total cycle can make a difference of 0.6 € in cost production. It would be important to select or choose good quality juvenile for semi-intensive aquaculture





Fry cost	400 grams	85% survival	
3 units/kg			
	Good quality	Bad quality	
fry number/kg	3	0,9	3
			0,75
			+ 6 month
1 gram fry price	0,3		0,25
TOTAL		0,9	1,62

- Feed cost: feed composition and feed strategies are also very important for a cost reduction. It is not important just the food conversion rate but growth rate also affects very much the production cost.

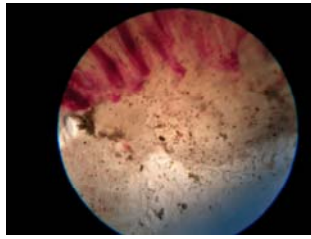


Feed cost			400 grams	
	Good quality food		Bad quality food	
FCR	2	1,6	2,8	1,96
GROWTH			+ 6 month	0,87
FOOD PRICE PER KG	0,8		0,7	
TOTAL		1,6		2,83

- Electric and oxygen costs could often be improved in most of the farms.



- Pathology and predators can become a major problem because the eventually reduction of survival.



Business associativism is very important in order to get general achievements. Asema it has been working hard in the last years. Some of the achievements are:

- “Pescado de estero” label: it has been created to promote the fish obtained in extensive and semi-intensive systems and there are good expectations with it. “Dorada de crianza del sur calidad certificada” it is also used but this level it is no restrictive just for earth systems.



- Central purchase office has been created and some farms are buying food using this tool that let them to get better prices and pay facilities.
- CTAQUA (Centro tecnológico de acuicultura de Andalucía) is well consolidated. It has developed some projects and there are some others to be done in the next future. Some of the projects are :
 - o Study of the research done in Andalucía in aquaculture. Analysis of the work done and the needs of the farms.
 - o Study of parasite pathology in earth fish culture. Diagnosis and prevention.
 - o Market aquaculture study.
 - o Transformation and packing of seabream and seabass.
- Sanitary Defence association: in the coming months it will start to run and it will be a good tool to prevent pathologies.
- Central selling office it is also projected in order to get better prices.

Semi-intensive aquaculture farms are working hard to be profitable but extensive farms have even more difficulties to be financially feasible. It is important to remark that both systems are more than an economical activity, as they offer:

- Patrimonial and cultural value
- Aesthetic value
- Maintenance of ecosystems functions.

It would be good thinking how farms could be compensated for doing it, in order to be competitive or to maintain the system of production.





Key-words:

EXTENSIVE AND SEMI-EXTENSIVE AQUACULTURE , PRODUCTION COSTS.