

**PROJET DE RECHERCHE ET DE DÉVELOPPEMENT DANS LE DOMAINE DE
L'AQUACULTURE DU THON ROUGE AU ROYAUME DU MAROC
PURPOSE AND PRESENT STATUS OF THE PROJECT**

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In order to develop the technology of enhancement atlantic bluefin tuna, the protocol was signed by le ministre des peches maritimes et de la marchande, l'office national des peches(Royaume du Maroc) and Overseas Fishery Cooperation Foundation(OFCF) in 1992. According to the protocol, the project titled "Projet de Recherche et de Development dans le domaine de l'Aquaculture du Thon Rouge au Royaume du Maroc" was started at Port Maritime de M'diq, northern part of Maroc.

The project is composed by three phases. I st phase is to develop the methodology of rearing parent fishes for spawning in around the year. It is very difficult to rear big fishes in winter season according to rough conditions of the sea. It is necessary to construct the mooring system and to design the fish preserving net. We have little informations about the requirement for nutrition and annual changes of feeding activity of adult bluefin tuna. So, it seems very valuable to biology of bluefin tuna to have some experiences to rear adult bluefin tuna around the year.

II nd phase is to develop the techniques to collect eggs spawned in the net and to incubate the eggs. In this phase,

it is very important to know the annual changes of gonad maturity of bluefin tuna under natural environmental and artificial rearing conditions, and the relationships between gonad maturity and environmental conditions. So, we have to investigate the annual changes of gonad maturity under natural and rearing conditions. If parent fishes do not spawn under artificial rearing conditions, it is necessary to develop the techniques inducing artificial maturation and spawning of bluefin tuna. It seems very difficult things for the project, since there are many problems to solve in future.

III rd phase of the project is aim to develop the methodology about artificial seedlings of bluefin tuna. The purpose of this phase is only limited experimental stage of the techniques. Studies of this phase will carry out in cooparation with the artificial seedling project of Pacific bluefin tuna in the Japan Seafarming Association.

It is very effective for rearing adult bluefin tunas around the year in the experimental waters that the mooring system and the preserving net (120m x 50m x 30m) designed by the project. From the experiences of rearing parent fishes in this two years, we can get some useful informations about the annual changes of feeding activity and preference for feed in adult bluefin tuna, corresponding with changes of the gonad maturity and environmental conditions. It is very important to do systematic sampling for parent fishes reared, we sampled 53 parent fishes to analyze physiological conditions. Materials obtained are analyzed in cooperation with the Natinal Institute of Aquaculture, Japan. In near future, it will be discussed that relationships between seasonal changes of gonad maturity and physiological conditions of bluefin tuna under rearing conditions. It is clarified that relationship between body length and body weight is influenced by gonad maturity condition.

In 26 May 1994, it is first time to observe spawning behavior and to success collecting eggs spawned. Spawning behavior was continued till middle of June. In this period, 39 parent fishes were reared in the net, estimated mean body

weight was 300 to 350 kgs, ranging 250 to 500 kgs.

Now, we are standing on beginning of II nd phase. In this phase, there are many problems to collect eggs spawned in large preserving net. Furthermore, we are faced with difficult problem to get parent fishes, according to a poor haul of bluefin tuna in set net. Especially in this year, two set nets in northern part of Maroc can not catch anything.

It is preparering for success of the project to construct laboratory in Port M'diq. It is expected to complete the laboratory in early next year, and to start the operation of III rd phase of the project.