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Overview of Growth Pattern and Post-Harvest Techniques for Different Species

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Review Article

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ABSTRACT

The world is surrounded with the 3/4th of the water, and one fourth with the land, even though fish production and maintenance has been ignored and this leads to the decrease in the preservation and increase in the mortality rate of the fish. Aquaculture production and research has been increased for the past few years due to unavailability of food in few countries.

As the human population has increased, the extensive research on fisheries started few years to fill the gaps. The gradual increase in the fish industries lead to development of present and future generations. Though the production of consumption and development still lack in few countries due to unawareness of the fish importance and its nutritive value. Fish benefits and the easy way of cultivation can increase the rural development livelihood.

The research in the area of the length weight growth pattern of fish varies in different countries, shown to determine the fish biology, growth and health status of the fishes. A wide variety of the fishes with variations in color, size, structure, growth and life span is still under research and many are unknown based on the growing pattern and adaptation to the environmental conditions, abiotic and biotic factors makes the fishes to grow and survive.

INTRODUCTION

In the similar way, to understand the length and weight relationship in fishes can determine the status of fishes fatness and its activity [1,2]. According to the [3,4], helps to determine the conditions of the fishes in Mullet species, whereas according to the Ndimela [5-9], length weight relationship showed nine negative allometric growth pattern from lagos. The six economic fishes showed negative allometric growth pattern in ibeshe waterside in Nigeria reported by Joseph Basmidele Bolarinwa [10-16].

The species of P. daniconius, correlation coefficient found to be high indicating the healthy conditions of fish species [17-21] in upper region of Assam. Whereas growth pattern of length weight relationship for both male and female agrees with isometric growth formula [22-28]. In some fresh water fishes LWR can be determined based on locality, habitat, diet etc according to Esmaeili and Ebrahimi 2006 [29-32].

According to the reservoir habitat, the changes is in the LWR might change with respective to years [33-36]. In species L. senegalensis, the isometric growth shows same results, whereas in L.coubie (male) shown isometric growth compared to female which had negative allometric growth [37-43].

The heavy metals accumulation in the water not only affected the fishes but also human kind. The significant changes occurred with the accumulation of heavy metals with respect to length and weight [44,45].The Hg concentration affected the health condition of Limanda limanda was observed in the water [46-51].The changes in habitat of P.squamosissimus and cichla monoculus to brazil reservoir found the species healthy growth and reproduction in all seasons [52-57]. Fisheries growth can be misleading with the characters including type of sexuality, sex maturity [58-66].

Different ways for Preservation of fishes had different effect on fish

Fish processing and preservation technique includes methods like drying under the sun; salting and chemicals usage etc to aviod the post-harvest losses [67-72].These technologies were helpful to increase the profit and development of aquaculture and to produce the quality of fish according to Abdi T.G [73]. But according to Sarkar UK, et al. the concept of conservation of aquatic resource and regulating biotic assessment helps in fish protection [74]. Another way of cryopreservation of the fish seed production in Nigeria catfish aquaculture [75]. Gamate preservation for reproduction for the sterile fishes, future prospects to increase young ones and their fertility helps maintaining fish population [76].

To reduce the post-harvest losses the offshore transport of fish increases fisheries value globally [77].The other way to improve the storage of fish by the application of grape and papaya extract in fishes like indian Mackrel has been benificial method [78]. Fermented fish (Raestur Fiskur) in faroe island is significant preservation technique [79]. The storage of the sperms and eggs for different species seems convenient method of preservation to maintain fish fertility [80-88]. Bacteriophage cocktail can be used to preserve smoked salmon [89-99].Vitrification of zebrafish (Marques Ls et al.) found no significant changes [100]. Hence, the length and weight relationship differs among the fish species according to physiological, morphological and external condition, that may include the body shape, fish feed, aquatic environment, fish maturity, sex and seasons.

This review tries to give an overview of situations in this area of research, identifying the challenges and redirecting the reader to more in depth review of papers.

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