

## CHAPTER 2

# FACTORS AFFECTING ATLANTIC BLUEFIN TUNA (*THUNNUS THYNNUS* LINNAEUS, 1758) GROWTH AND FEED CONVERSION RATES UNDER FATTENING CONDITIONS

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### INTRODUCTION

Aquaculture is one of the fastest-growing sectors of world food production. The share of aquaculture in global fish production has been increasing steadily, accounting for 85.3 million metric tons (47.9 percent) of the total production of 178 million metric tons in 2019 (FAO, 2021). It is also estimated that global aquaculture production is projected to increase to 204 million tonnes by 2030, and about 54% of this production will come from aquaculture (1).

For fish production, aquaculture employs a variety of tactics. Capturing wild individuals and rearing them under culture settings is one of the approaches. The United Nations' Food and Agriculture Organization (FAO) has given this practice the name capture-based aquaculture (CBA). CBA offers various advantages and disadvantages as compared to aquaculture, which regulates the entire reproductive cycle of the species being farmed. CBA does not rely on preventing target species from reproducing. As a result, species that are naturally accessible can be created without the requirement for hatcheries or breeding programs. However, the sustainability of production is hampered by the dwindling natural populations of farmed species in nature. CBA aquaculture is often employed to produce high-value marine fish species like tuna and grouper (2).

Tuna is one of the most commercially valuable species for capture-based aquaculture. Despite research on egg collection from adult individuals and larval rearing, most of the production is still depends on CBA.

The tuna (genus *Thunnus*), which contains seven species, is classified as a member of the Scombridae family (order Perciformes). The bluefin group and the yellowfin group are two subgenera of the genus *Thunnus*. There are five species

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