UNIVERSITI TEKNOLOGI MARA

FABRICATION OF FISH SCALING MACHINE

ADAM BIN HABRI

Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

Feb 2023

ABSTRACT

A Fish scaling machine is a newly developed product according to the food processing industry that is in demand in the market. Due to the difficulty in removing fish scale manually, this project objective is to fabricate a fish scaling machine to help the process of removing the scale easier and less time consuming. This project intends to design, analyze, and fabricate a fish scaling machine that will help to reduce the process time and reduce the hassle to remove fish scales than removing he fish scales using the normal method. The fish scaling machine can reduce the time of the process because it is powered by an electric motor. In conclusion, the machine will surely benefit a small industry that uses fish.

ACKNOWLEDGEMENT

Firstly, I would like to use this opportunity to express my special thanks of gratitude to my supervisor Ir. Ts. Haszeme bin Abu Kasim as well as my parents who gave me guidance and strength on completing my diploma journey.

Finally, I dedicate this thesis to my both of my parents for having the aspiration and dedication to educate me. This success is dedicated to both of you.

TABLE OF CONTENTS

CHAPTER ONE
INTRODUCTION

1.1   Background of Study

Descaling fish is usually done using fish scaler tool. However, the tool requires for human to descale the fish each at a time which will consume both time and energy. Furthermore, removing fish scale for business such as restaurant uses a lot of fish would require many staff which will causes the restaurant to pay more wages. The process of removing the fish scale using the machine is also more sanitary as there will be no human physical contact with the fish throughout the process. Descaling fish using the machine will also be more time efficient as descaling the fish manually using hands will be slow. In view of factor above we can conclude that fish scaling machine is seriously needed.

1.2   Problem Statement

In this modern era, people usually do not have time to do a task like scaling a fish. Using a hand tool like scale remover would require a certain skill for the user to operate it, as an outcome it will have an effect on the fish scale cleanliness. Other than that, industry that uses fish as their main ingredient on their product would also require the fish scale to be remove. In order for the industry to remove the fishes scale the company would be required to hire a lot of staff which will require them to pay a lot of funds to their staff which is not ideal for them as businesses like this usually trying to maximize their profit. Food industry also have a strict regulation on cleanliness of how the industry process their product. So, consumer that uses fish scaling machine would surely benefit from this invention.

1.3   Objectives

The main objectives of this project are:
a) To design and make an analysis on a Fish Scaling Machine
b) To fabricate an affordable and functional Fish Scaling Machine