## EXTRACTION OF FISH GELATIN

MASTER THESIS IN STUDY PROGRAM OF AQUATIC FOOD PRODUCTION

Háskoli Íslands 31.1.2019 Ulla-Maija Poranen

#### GROUND OF THE MASTER THESIS

- Amount of by-product is high in fish industry
- Protein demand in the world is still increasing
- Gelatin is protein, derivative of collagen that is found from connective tissue like skin and bone
- Gelatin is used in food, cosmetics, pharmaceutical and textile industry
- Fish gelatin has special features and it is more suitable for people with special diet

Aim of the thesis is to find suitable way to utilize fish by-products and extract gelatin from mackerel by three different method; acid, alkali and enzyme.



### PROCESS OF THE MASTER THESIS

Collecting information

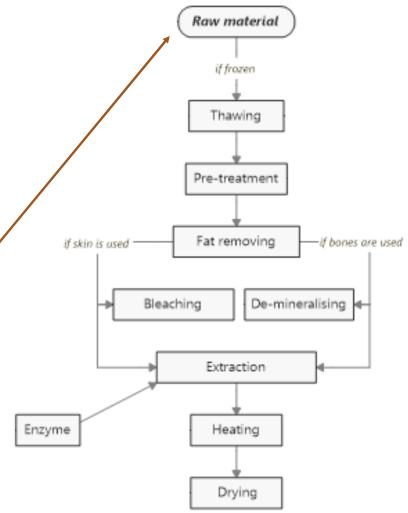
Building the method

Practical part

Results

## **EXTRACTION PROCESS**





# PRACTICAL PART OF THE MASTER THESIS

Fish	Method	Part of fish		Number of extraction batch			Number of total extractions	Duration of method (d)
Mackerel	Acid	Head	Batch 1	1	2	3		
		Back bone		1	2	3		
		Skin	Batch 4	1	2	3	9	5
	Alkali	Head	Batch 3	1	2	3		
		Back bone		1	2	3		
		Skin	(Batch 3	1	2	3)	9	6
	Enzyme	Head	Batch 2	1	2	3		
		Back bone		1	2	3		
		Skin	Batch 4	1	2	3	9	5
							=27	

### **DESIRED RESULTS**

- To gain pure quality gelatin with appropriate yield
- To find the functional way to utilize fish by-products
- Adjust the method of gelatin extraction and make it suitable for industrial scale
- To be able to graduate on June