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Bergen Value Chain Trip 1/3-2/3~

Outline

1/3 Thursday

- Institute of Marine Research
 - National Sales Organization for pelagic fish



- Interaction of UiB students
- Conclusion

Value Chain in Norway



Institute of Marine Research



• Purse seine



High tech, state of art The fish is caught alive

In Norway this method dominates 98.5% of total catch of mackerel

• Trawls



Can catch a lot of fish in one time Acoustic technology is used to locate the fish

Whereas trawls are used for 1.5% of total mackerel catch

Institute of Marine Research



• Stresses on fish fillet

Trawls \rightarrow fish exhaustion \rightarrow ATP depletion \rightarrow Lactic acid produced \rightarrow



lower pH \rightarrow specific enzymes starting to work \rightarrow more gaping







Win-win situation



National Sales Organization for pelagic fish



Fishery markets

Norway

Japan



In Japan

- A lot of diversities of environment
- Many ways to catch mackerel

Mackerels are so different depend on the area and who caught



Misaki saba

Are there any Norwegian mackerel brands?



In Norway

• A few environmental differences

• The main ways are only two





Norwegian mackerel is one of the biggest brands!



Stable quality

- Affordable
- Rich in fat



PELAGIATM



Mechanical method of filleting

Merit

- · Low labor cost
- High speed

Defect (Gaping)





Mission

For the 100% use of fish





Mission

For the 100% use of fish

Advantage

- Environmentally friendly
- Profitable





Mission

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→ Use of rest raw material is big advantage.



What is the Japanese approach???





For Japanese retailer

- Skin on the top is usual.
- Customer can't check the gaping.

→ Gaping is a important factor for **retailer**??

Taste > Appearance



Mackerel (Japanese supermarket)

Customer :



New Product

- The fish not for dish
- Utilization of unutilized

Different approach to same problem.



KAMABOKO and Gusokumushi

Disgusting might be delicious!?

BIOMEGA

• Main mission:

Producing byproducts of salmon

• Characteristic:

To use enzyme for processing rest raw material

BISMEGA



Why they use way of enzyme hydrolysis? To increase value of byproducts

Effects of hydrolysate

- Nutrition refinement
- Reduce allergenicity
- Changing taste



BIOMEGA

New byproducts idea

- Seafood-taste bread
 - **A** Smells fish
 - O Good nutrition





Source: SEVEN-ELEVEN JAPAN CO., LTD.

Interaction with UiB students

Actively engaging in discussion



Interaction with UiB students



Conclusion ~What we could learn in Bergen~

Connection of world

Conclusion ~What we could learn in Bergen~

Now

Future

Connection of time

Past

Conclusion ~What we could learn in Bergen~

Connection of people





Thank you for your attention