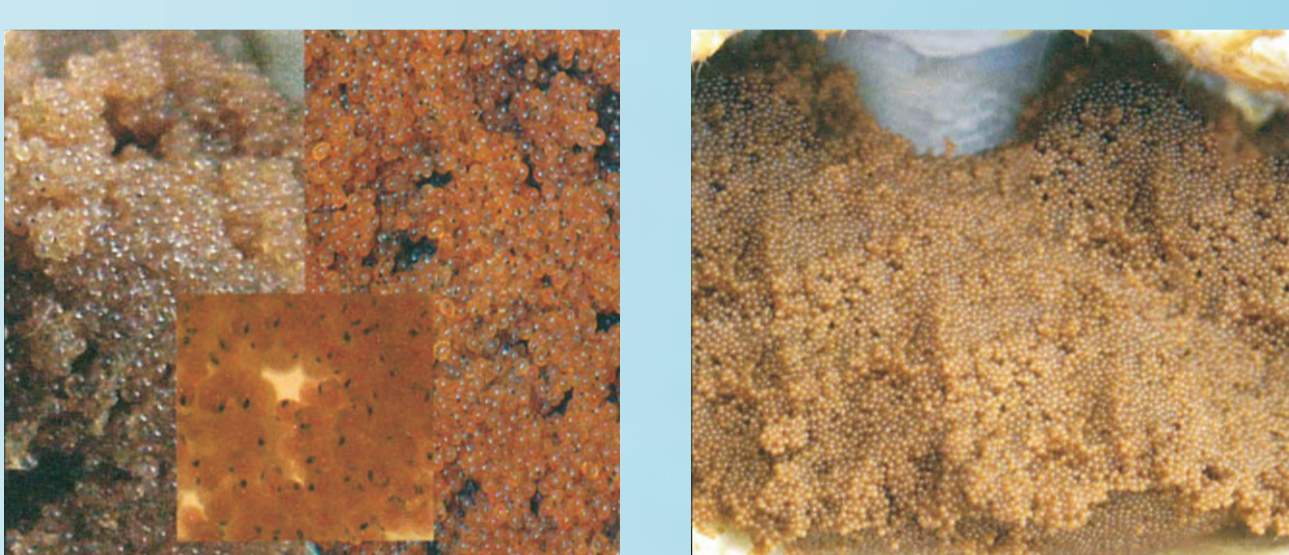
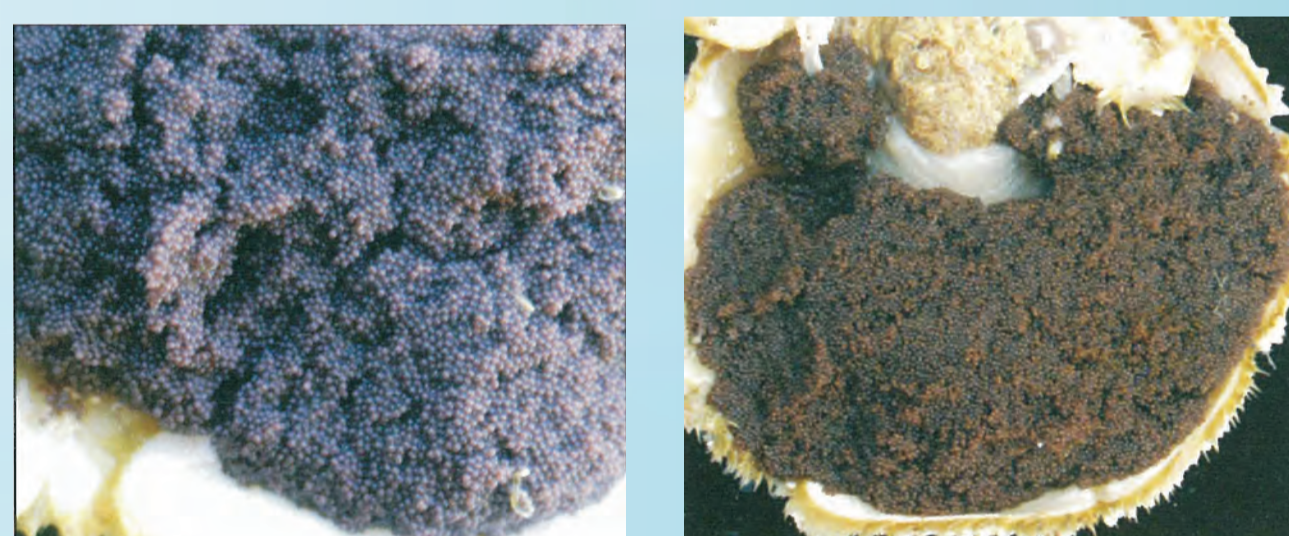
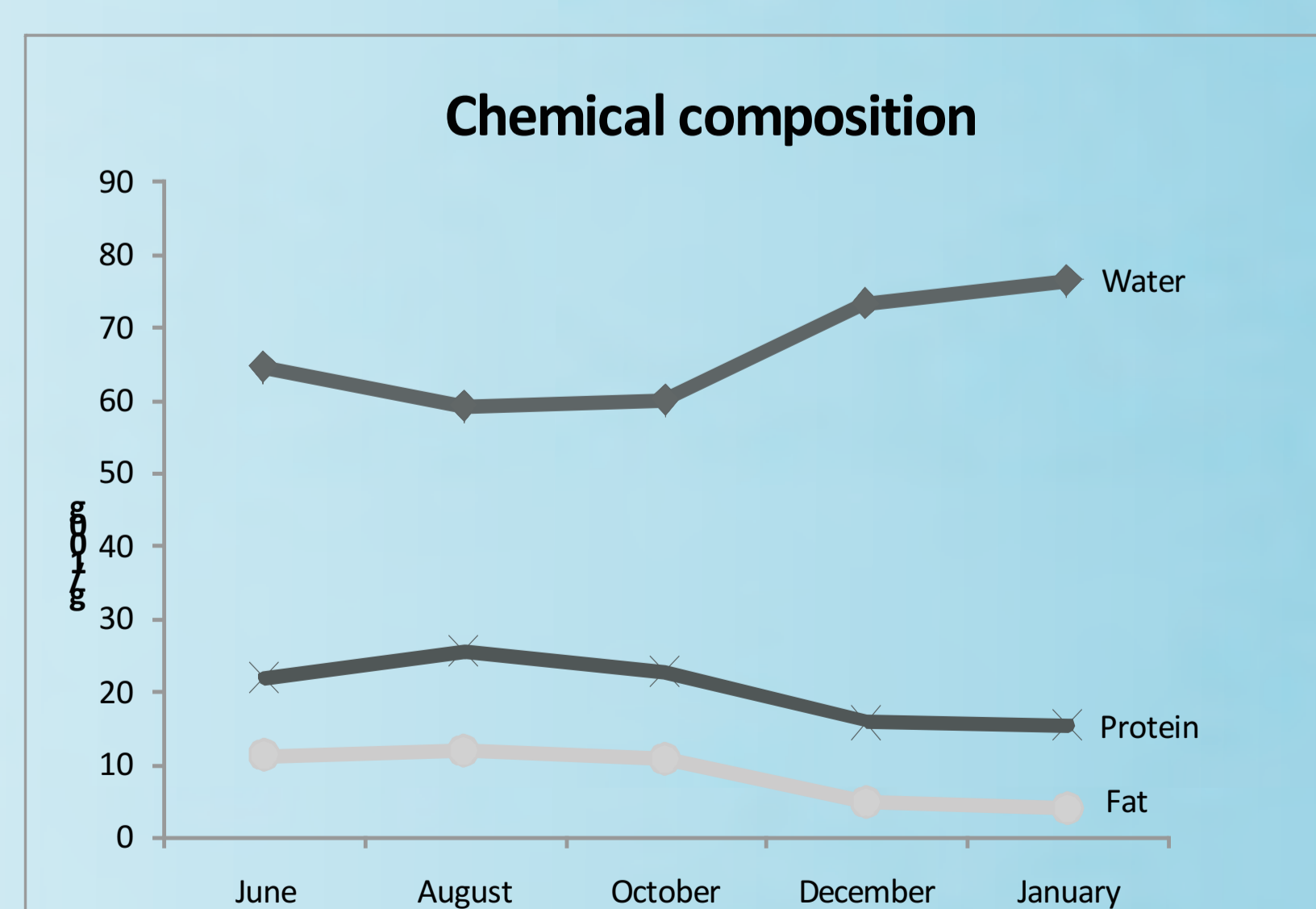


KING CRAB ROE; BY-PRODUCT WITH POTENTIAL

Møreforskning has studied the quality of the fertilized roe through the season and assessed uses and markets for the product. Research shows that the crab roe, which is not currently utilized by the king crab industry, could be developed into a marketable product. King Crab roe; by-product with potential.



Sorting and quality monitoring of the King Crab roe.



Water, fat and protein composition through the season.

Introduction

Globally, it is prohibited to harvest the female red King Crab (*Paralithodes camtschaticus*), a strategy aimed at preserving the species. In the Barents Sea, on the other hand, this is an introduced species and is expanding at the expense of other species. The Norwegian authorities have therefore permitted fishing of the female crab in order to restrict further migration. The female Red King Crab harvest provides access to a new by-product—the crab roe.

The King Crab migrates into shallower waters in April to mate and spawn. The eggs are about 1 mm in diameter and the roe accounts for approximately 8% of the total weight of the crab. Following spawning, the Red King Crab carries the fertilized roe for 11 to 12 months before hatching.

Aim

Investigate the quality of the fertilized roe through the season and assess uses and markets for the product.

Product quality

To establish the quality of the roe throughout the year samples were collected from June to February. Quality of the roe was monitored regarding larva development, colour and nutrition. The result shows that;

- The quality of the roe varies between animals and through the season.
- The roe has two main colours, blue and brown. The colour changes throughout the year from blue to purple/brown and from brown to orange.
- The best period for harvesting is June to October. Water content in the roe varies between 60-65% in this harvest period, protein and fat varies respectively between 20-25% and 10-12%.
- After October the nutrition, taste and appearance is poor and the larva development is prominent in the roe. For instance, between October and December, the protein and fat content drops from 20 to 15 and 10 to 5% respectively.

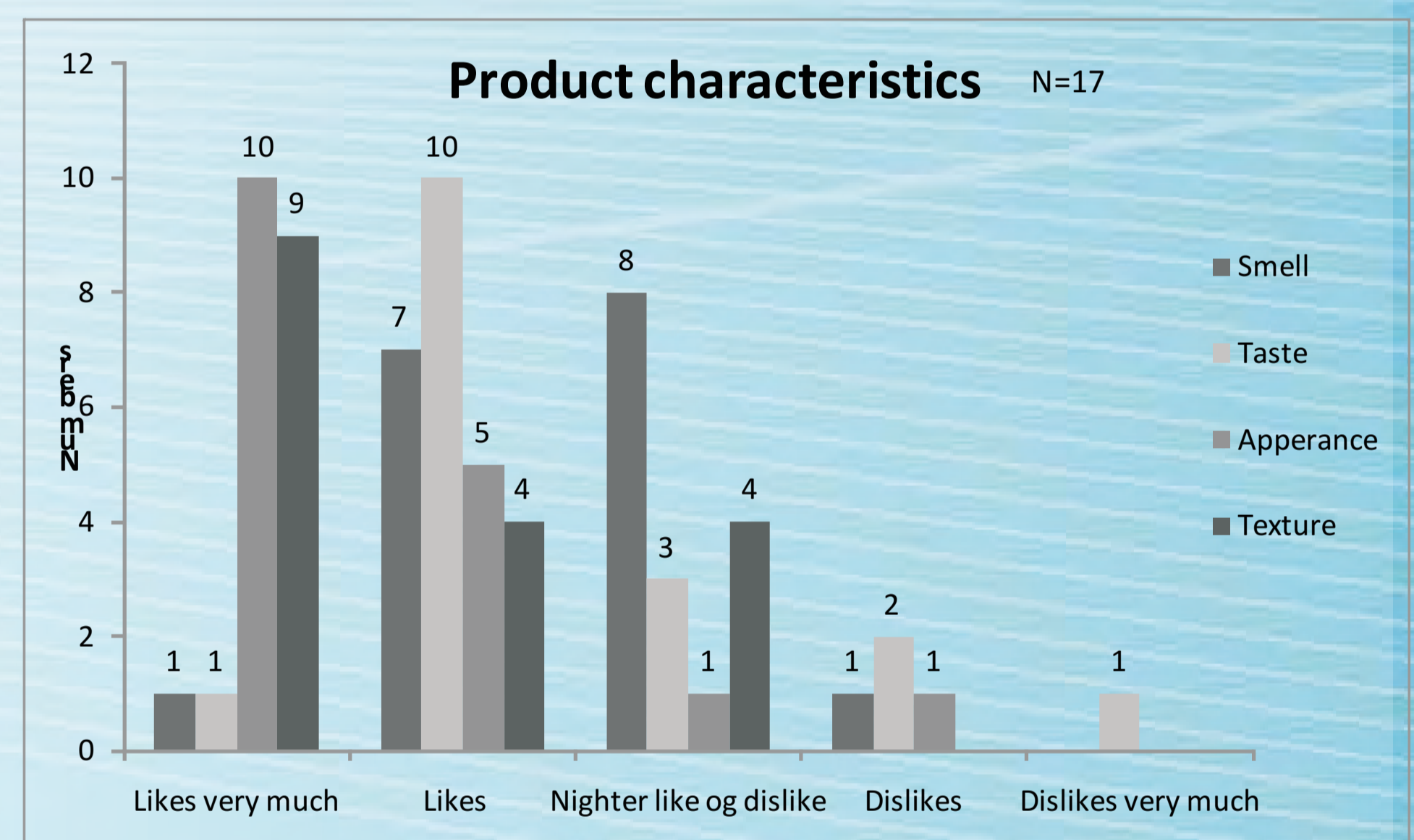
Market potential

Approximately 50 high-end restaurants in Norway, Spain, France and Japan received samples of king crab roe which they tested in both a natural and heated form. They answered a questionnaire, followed up with an interview. The result shows that;

- Most restaurants would like to buy King Crab roe in the future.
- Price will depend on quantity, distribution and branding.
- Limited quantity of roe combined with positive results regarding the quality, show that restaurants will be an important segment for the product.
- The product has a large potential. Restaurants with stars in the Michelin guide wish to buy King Crab roe.

Product characteristics

- Roe was best in its natural form, but could also be used as an additive in different dishes.
- The opinion of the taste varied in all markets. The main opinion was that the roe had a taste of shellfish, sea and seaweed or that it had a neutral taste.
- Many liked the crispy consistency. Some claimed that the roe was too small and hard. King crab roe was described as drier and didn't have the same oily feeling as fish roe.
- There was no quality reduction with freezing and frozen roe was accepted.
- The purple roe was rated highest, but the brown roe was acceptable.



Results of the sensory qualities in Norway



Different use of the roe.