



Wenche Emblem Larssen mottok gjev pris

Wenche Emblem Larssen fra Møreforskning mottok en av de gjeve prisene for beste poster under Eurosense 2014 i København. Posteren presenterer deler av arbeidet i prosjektet «Sensorisk kvalitet av marine oljer» som er blitt utført i samarbeid Nofima, Universitetet i Firenze og seks omega-3 bedrifter fra Møre og Romsdal.



What is the characteristic taste of a marine oil, and does the taste correspond with the product quality?

The Omega-3 industry has standardized methods for analyzing the chemical quality of consumer oils, but lacks a defined methodology and a vocabulary for evaluating the sensory quality. This study was conducted to define the sensory characteristics of marine oils, and to organize them for use as a tool in quality assessment.

Material and method
Samples of marine oils were collected from six of the largest producers of omega-3 products in Norway. The oils were collected to capture as much variation in sensory characteristics as possible, i.e. had different fatty acid content and were originating from different fish species and squid.

Altogether 44 samples were evaluated by a professional sensory panel using descriptive analysis. In addition, oils with specific qualities were tested and evaluated by experts from the industry.

Result
A total of 184 aroma and flavor, taste and mouthfeel descriptors were generated. PCA plots showed a high correlation between the smell and taste descriptors and where therefore grouped together. A marine oil sensory lexicon where created by selecting 60 of the descriptors and grouping them together in 21 defined categories. Flavored references oils where developed for 12 of the categories. An aroma wheel, comprising of the 21 categories and 60 descriptors, was created to form a graphical presentation of the sensory lexicon. In addition two main groups are

dividing the categories into "mouthfeel" and "smell and taste".

Chemical analysis on a selection of the oils has contributed to the understanding of different sensory features. The oils had mainly a low oxidation state and only 4 oils exceeded the GGD (Global Organization for EPA and DHA Omega-3) recommendations.

There is a positive correlation between primary and secondary oxidation products and sensory properties as rancidity, chemical flavor and process flavor and a negative correlation

between primary oxidation products and the sources.

Conclusion and further work
The sensory lexicon and aroma wheel will be a tool for the expert assessors in their quality control and this study was a first step towards standardizing the sensory terminology of marine oils.

Correlation between the main categories and descriptors in the aroma wheel will be investigated further.

Acknowledgement
This work was a part of the project - sensory quality of Omega-3 oils funded by Møre og Romsdal County. The work has been conducted in cooperation with 6 marine oil producers, BASF Bioethic AS, Berg Løffelsund AS, Serravallo AS, Tase Norway AS, UC Steiner Oslo AS and Pharma Marine AS.

The Norwegian report regarding the project is available at www.moreforsk.no

Tradisjonelle tran og omega-3 produkter assosieres ofte med harsk smak og omega-3 næringen ønsker å gi kundene sine en smaksgaranti på lik linje med næringens kjemiske kvalitetskrav. Innen planteoljer finnes det en rekke standarder både for kjemisk og sensorisk kvalitetskontroll. Omega-3 industrien har manglet en felles metodikk og vokabular for sensorisk kvalitetskontroll. Prosjektet har startet arbeidet med å få på plass felles rutiner og verktøy for sensorisk analyse av marine omega-3 oljer. Arbeidet vil legge grunnlag for en varemerkestandard som kan lette markedsføringen av marine oljer levert av omega-3 næringen.

Arbeidet som Wenche har ledet har blitt særdeles godt mottatt blant sensorikere i de nordiske landene. Hun har også blitt forespurt av NMKL (Nordisk metodikk komite for levendsmidler, www.nmkl.org) om å omforme arbeidet gjort på marine oljer til en NMKL-metode. Hun har takket ja til å være forfatter av denne metoden med støtte av fagpersoner fra de andre nordiske landene.

Sensorisk Studiegruppe, SSG gratulerer Wenche og Møreforskning hjerteligst med utmerkelsen.

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