



Vorráðstefna FÍF, 30. og 31. mars 2017
Grand Hótel, Reykjavík



Fiskimjölsiðnaðurinn á tímamótum

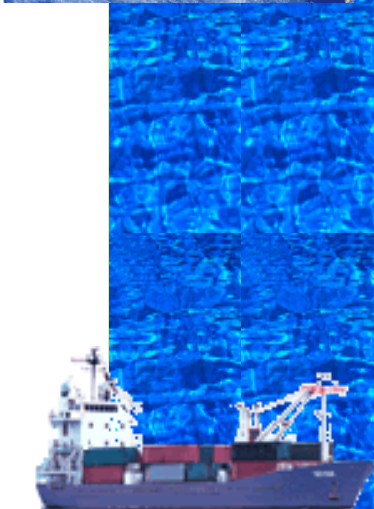
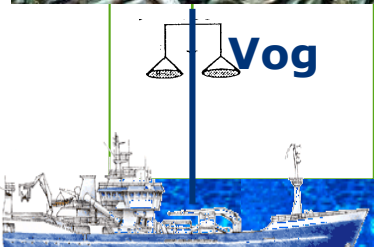
Sigurjón Arason

yfirverkfræðingur, Matís ohf.

Prófessor, Háskóli Íslands



Vinnslurás í fiskmjölsverksmiðju



Forhitari



Snigilsjóðari



Forsía



Skrúfupressa



Pressuvökvi



Mjölakilvinda



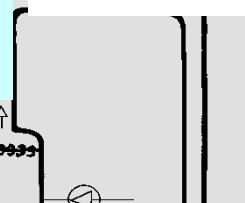
Soðlýsi



Filtrun



Eimur



Lýsis
tankur



Grófskilvindur



Lýsi



Lýsissskilvinda



Blandari



Gufubjappa



Mjölblöndun



Kvörn

Mjölkelir

Mjöl

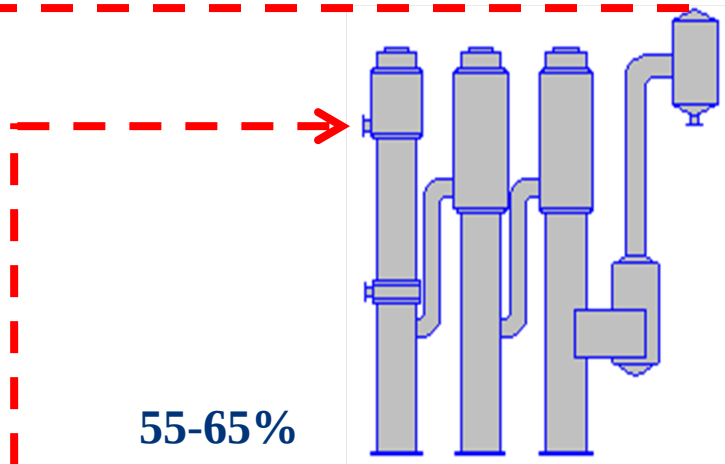
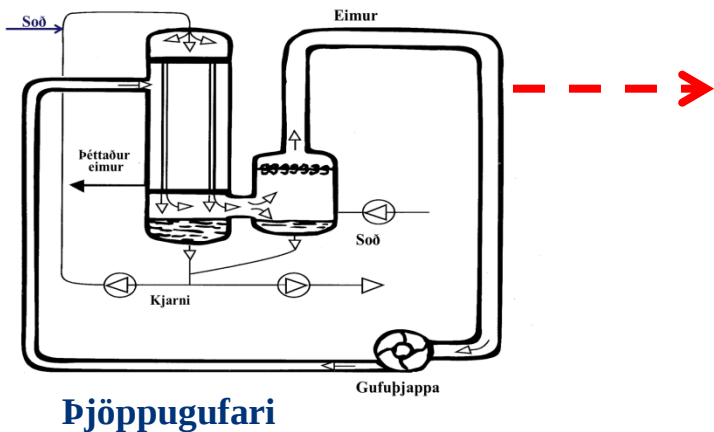
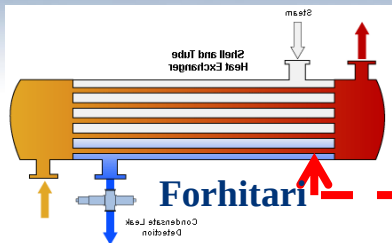


Þurrkari



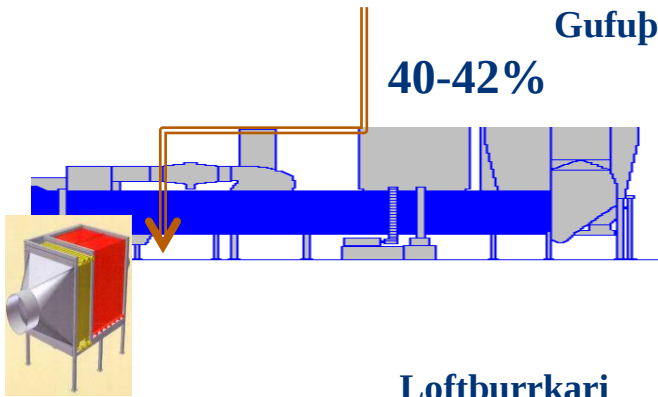
Mjölgeymsla

Tveggja þrepa þurrkun



55-65%

Fallstraumsgufari 3þrepa

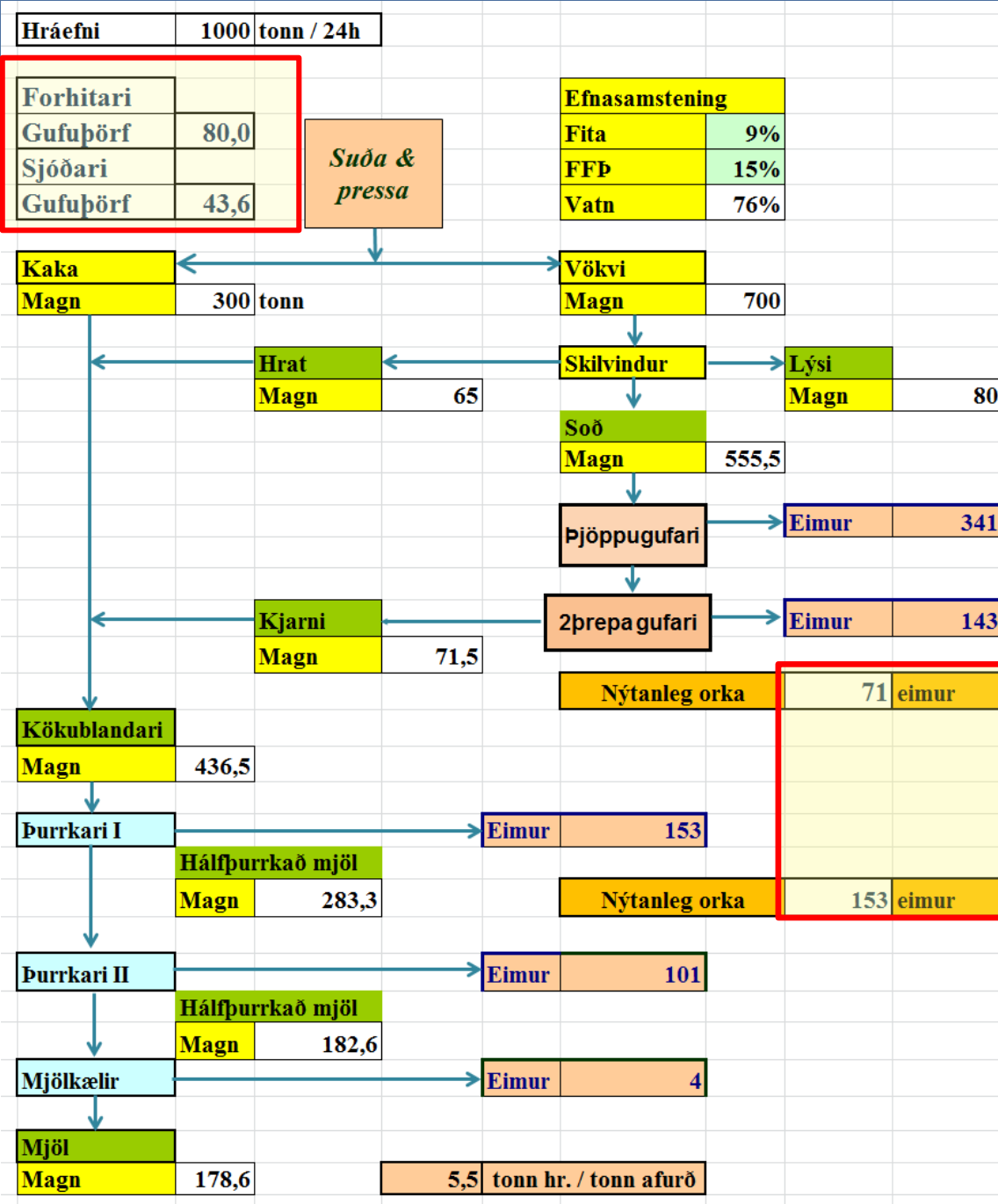


40-42%

Gufuþurrkari

Loftþurrkari

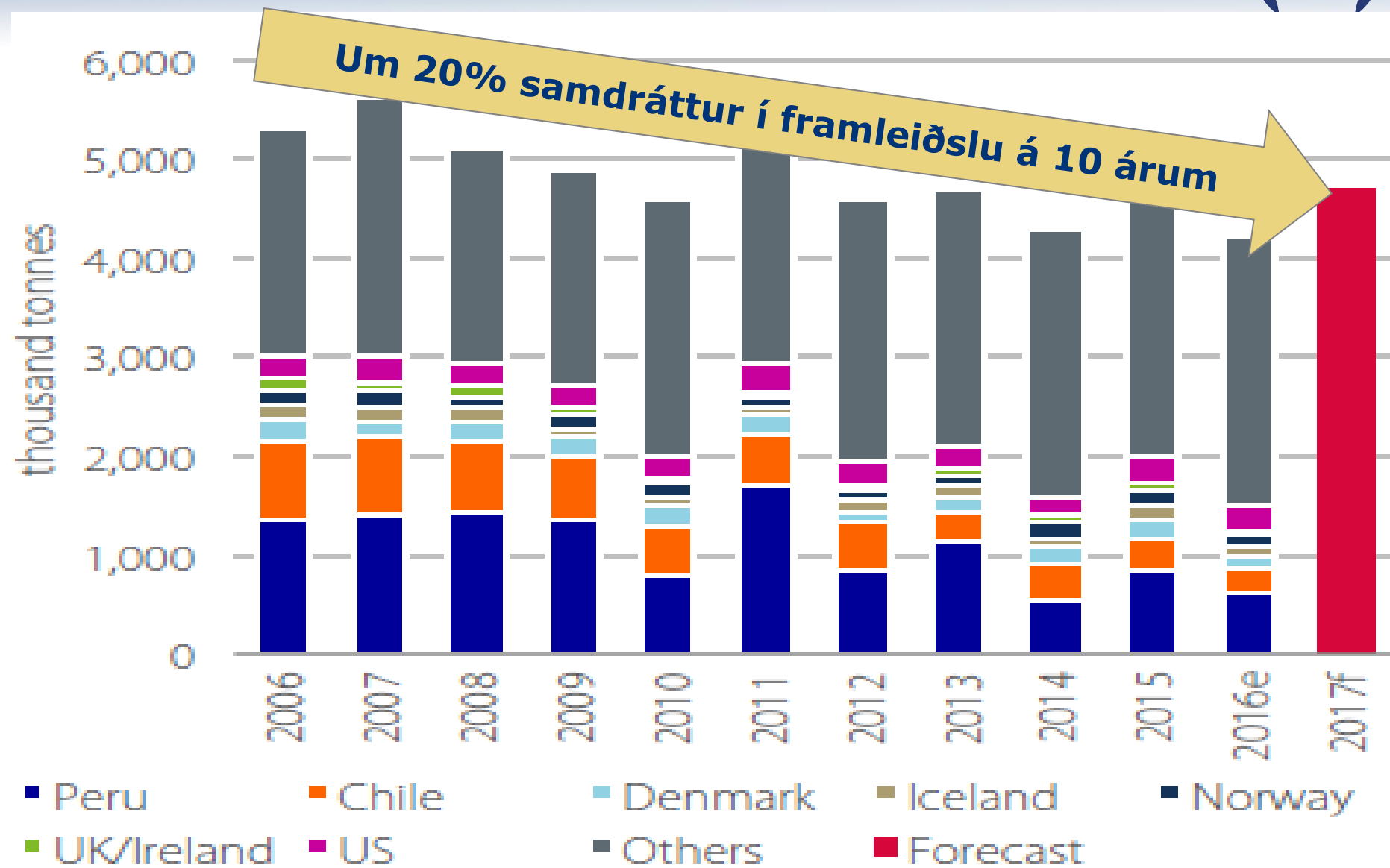
⇒ Fiskmjöl 8%



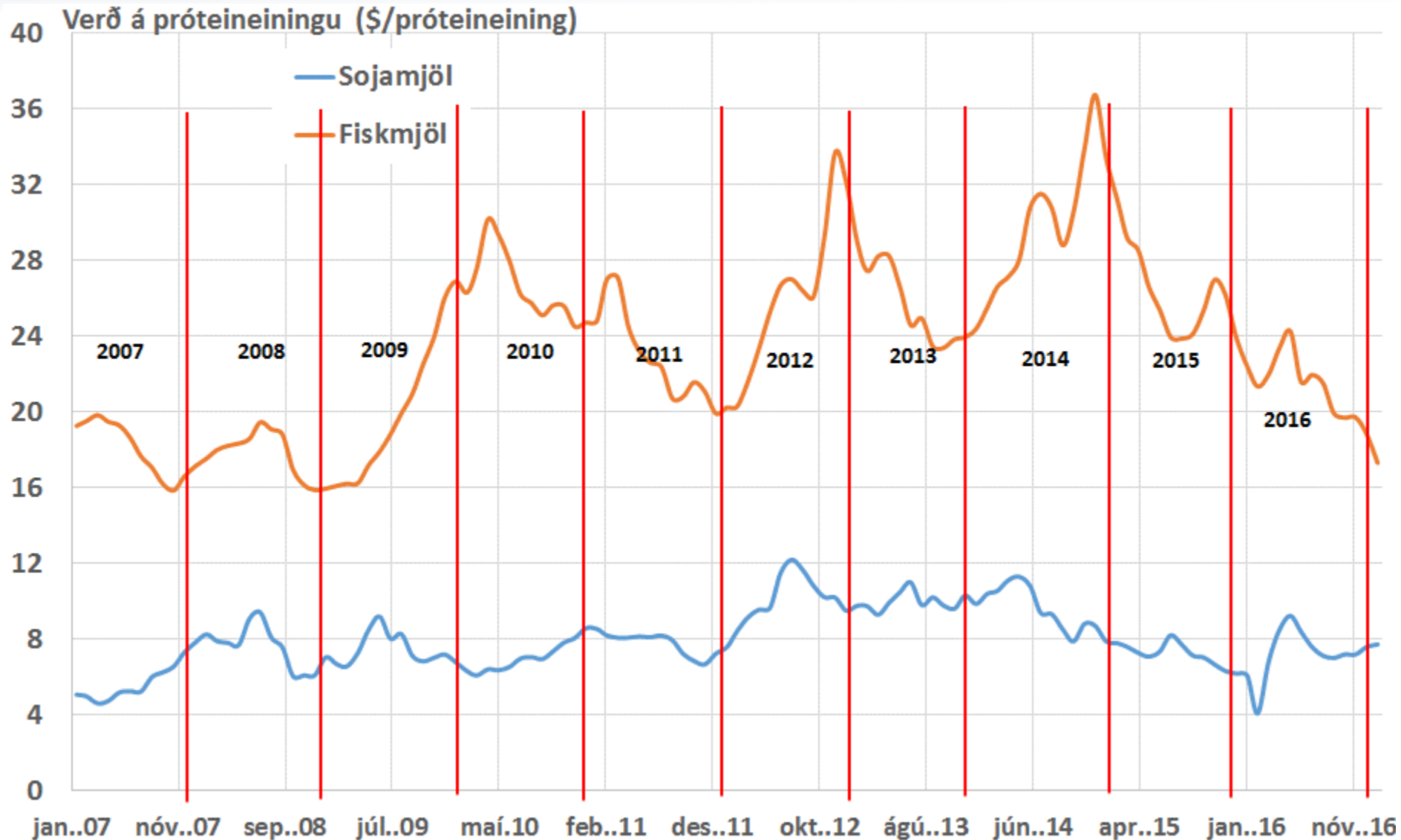
Hlutfallsleg skipting eims á milli vinnslueininga

Hlutfall eims í þjöppugufara	46,0%
Hlutfall eims í 2þrepa gufara	19,3%
Hlutfall af eim í þurrkara I	20,6%
Hlutfall af eim í þurrkara II	13,6%
Hlutfall af eim í mjólkæli	0,5%

Samdráttur fiskmjölsframleiðslu á heimsvísu



Verðþróun fisk- og sojamjöls síðustu 10 ár.

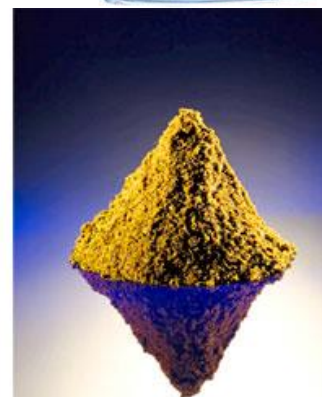


Próteininnihald 48% í sojamjöl og 65% í fiskmjöl

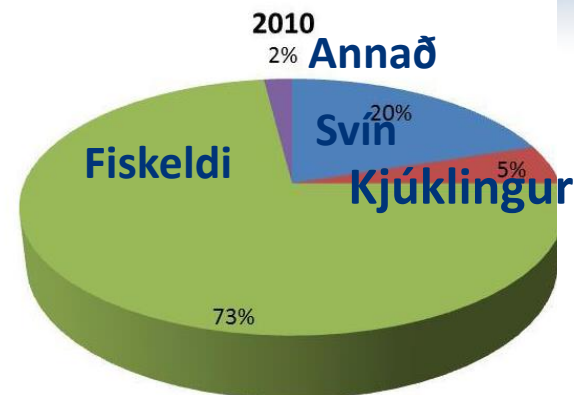
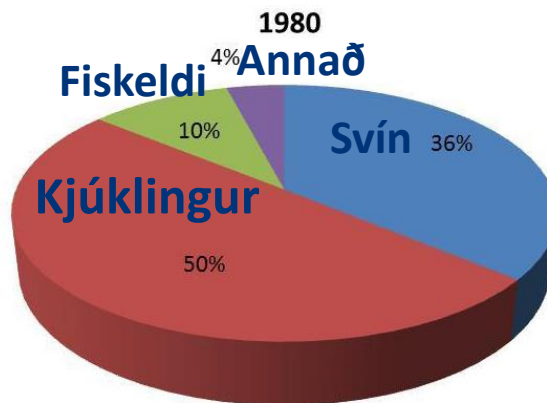
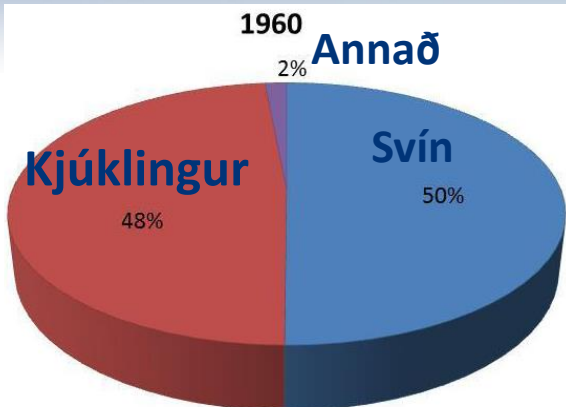
Fiskmjölsvinnsla hefur eða verður að breytast



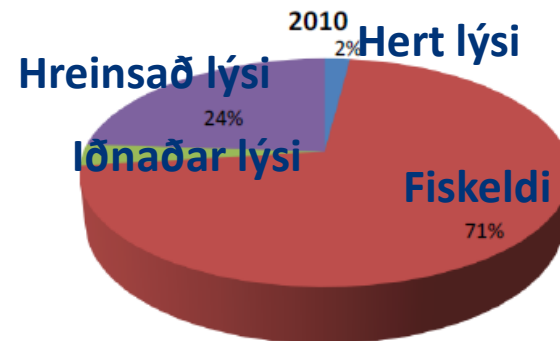
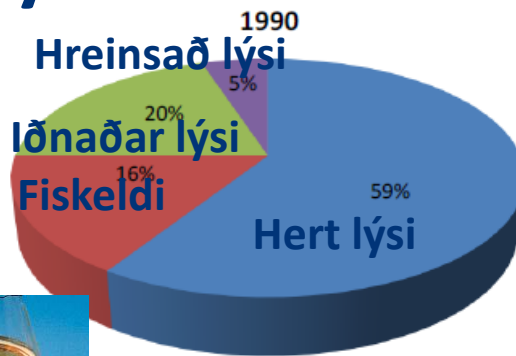
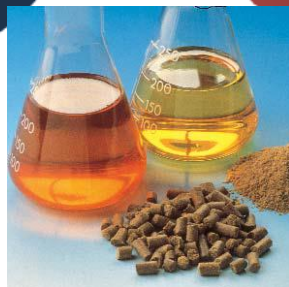
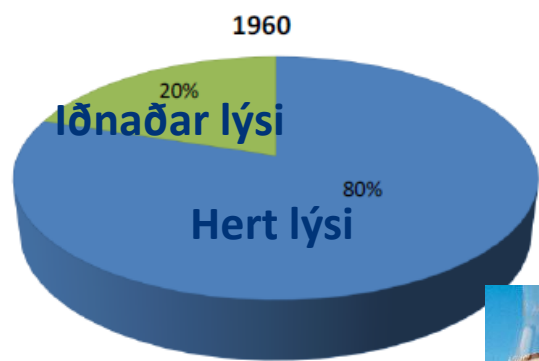
- Hráefnið
- Vinnslubúnað
- Verklag - þekkingu
- Hugbúnað
- Afurðapróun – nýir vinnsluferlar



Breytingar í notkun fiskmjöls 1960 til 2010



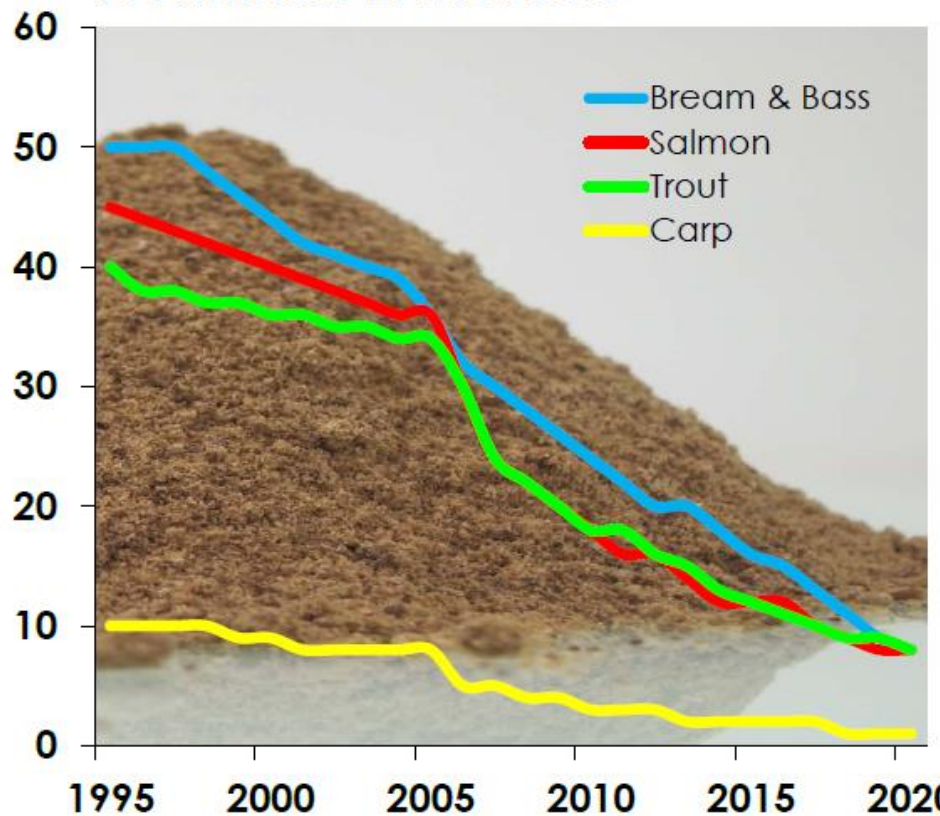
Þróun í notkun lýsis frá 1960 til 2010



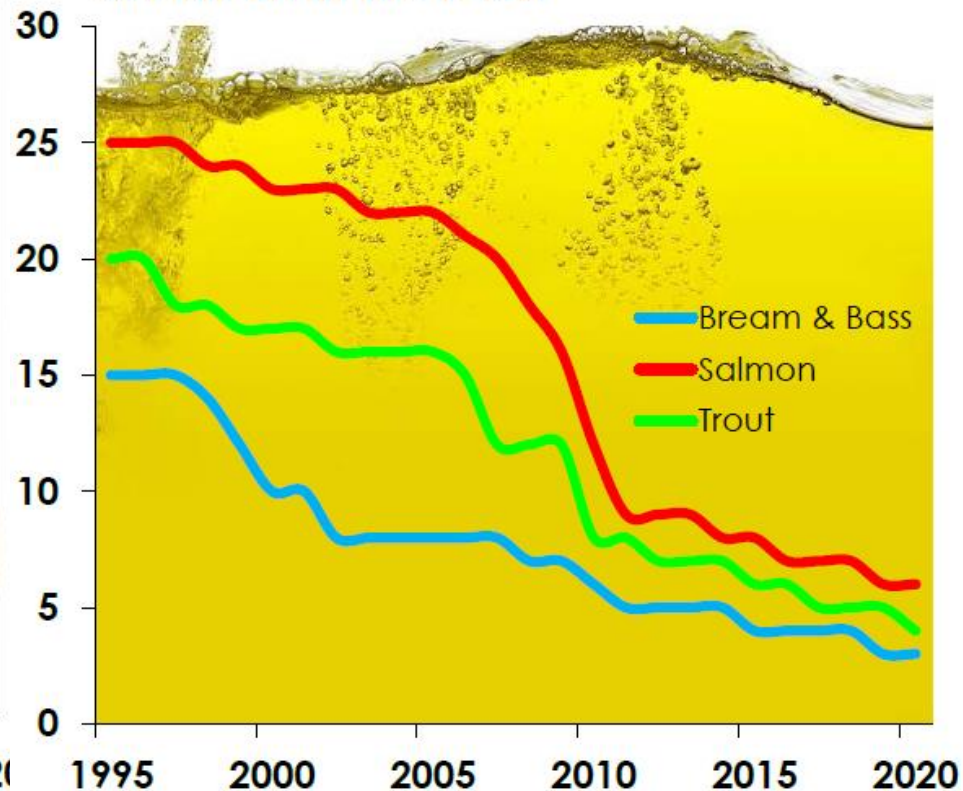
Minnkun FM & FO á straumum fiski er vel á veg komin

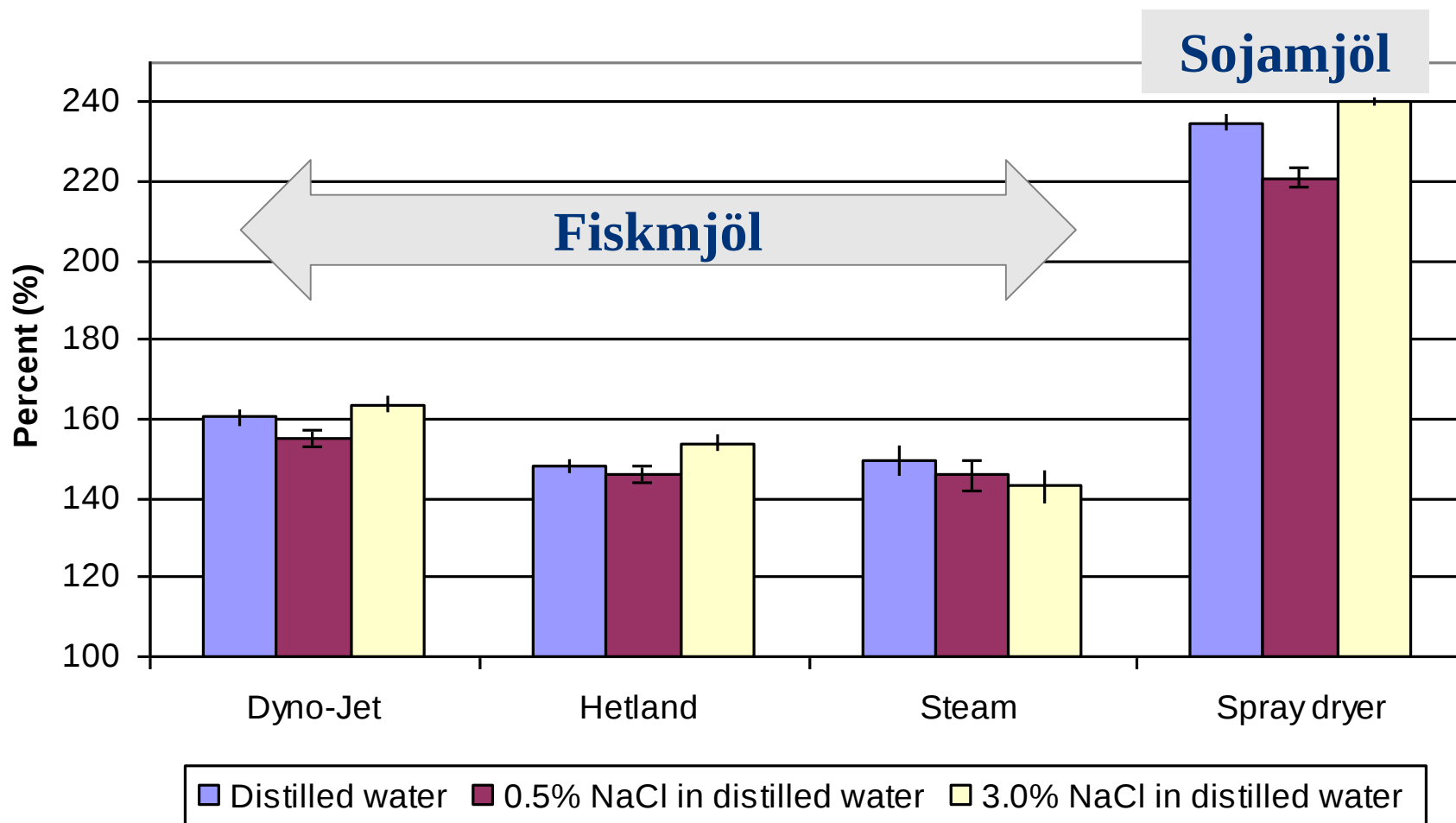


% Fishmeal in the feed



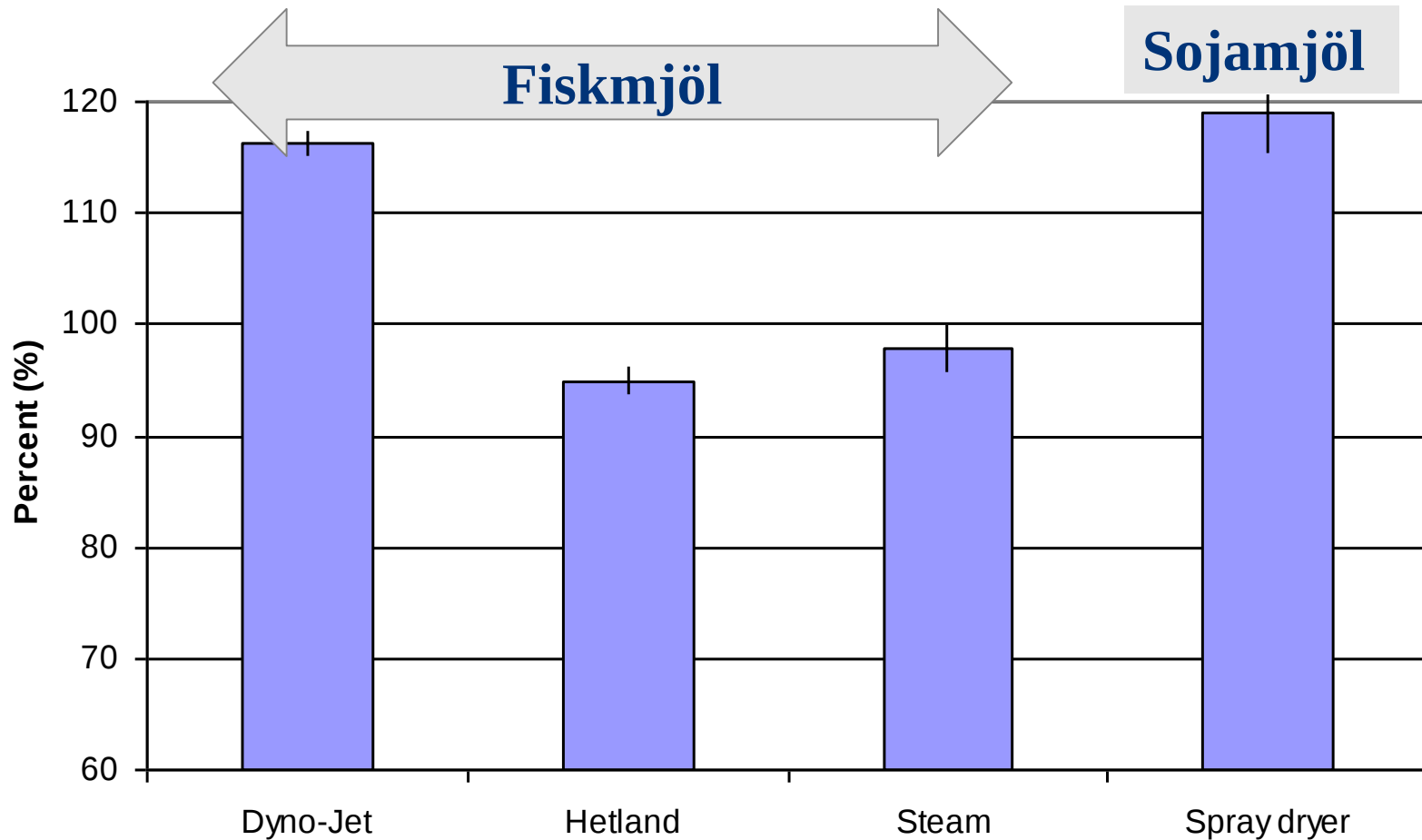
% Fish oil in the feed



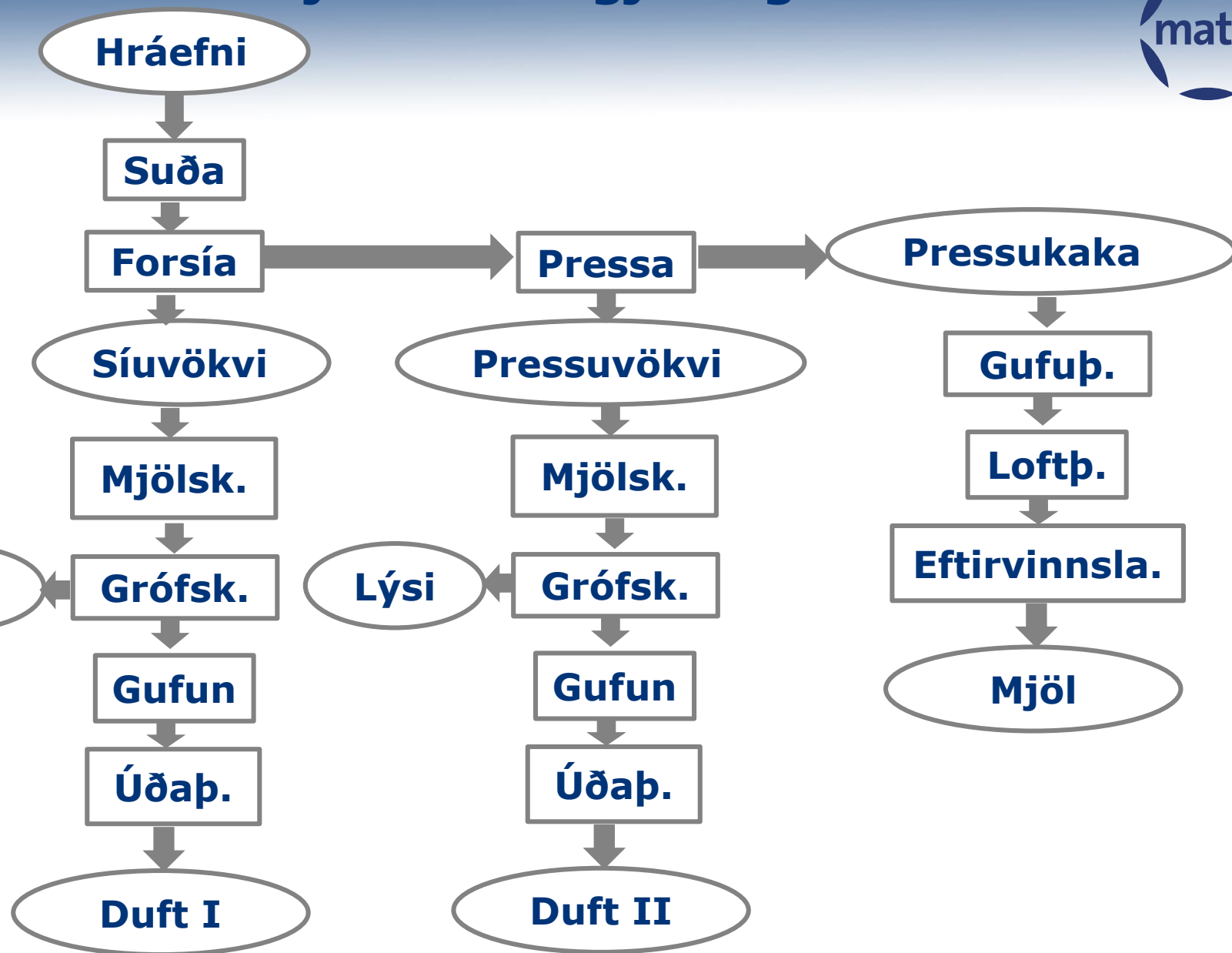


Vetrarloðna 2002

Olíuheldni (high quality meal)



Vetrarloðna 2002



Vinnsluferill – fisk prótein hýdrólýsöt



Afurða og markaðs pýramídi



Lyf



Snyrtivörur

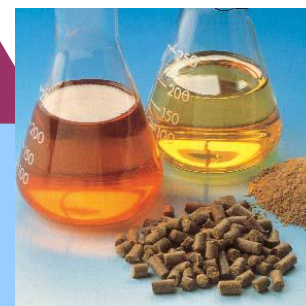


Heilsu fæði

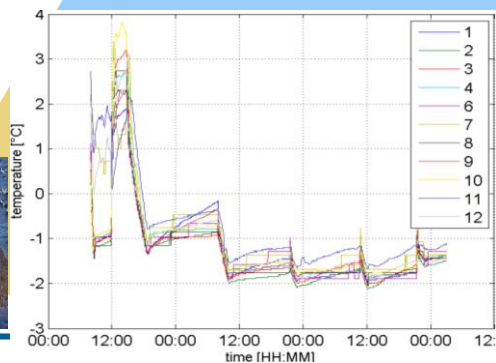


Matvæli

Fóður



Hráefni



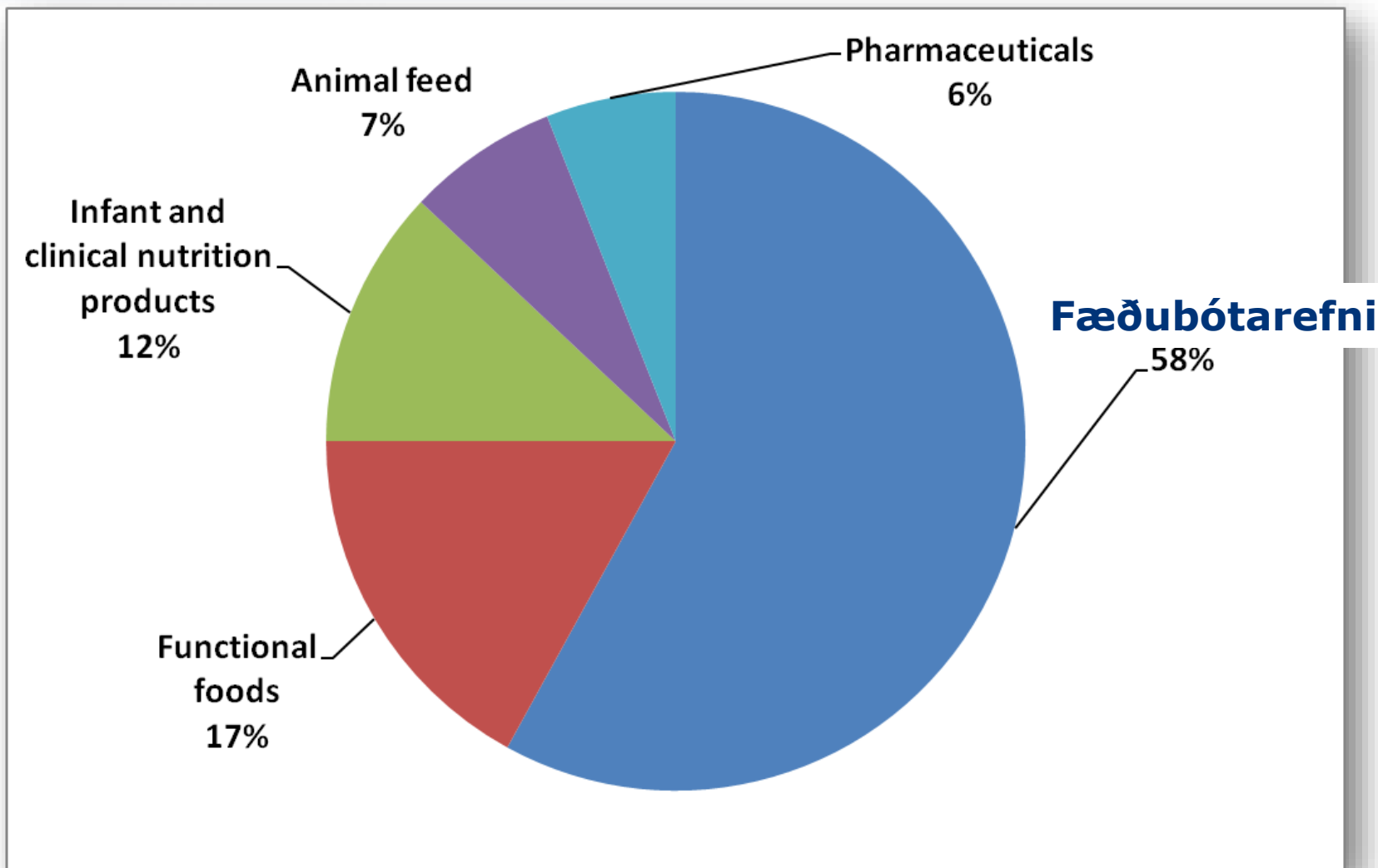
Lýsi



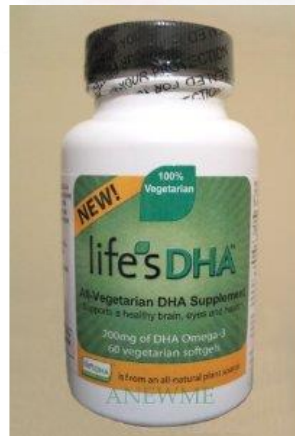
Lýsis afurðir



Áætluð notkun (rúmmál) omega-3 fitusýra



Nýjar uppsprettur omega-3 olía



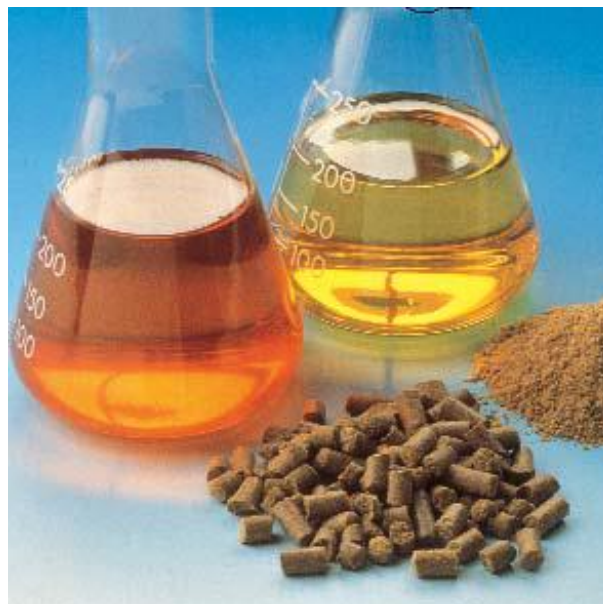
Fiskolíu bætt matvæli



Peptíð og prótein



Okkur er sagt að borða fisk reglulega vegna þess að hann inniheldur omega 3 fitu, en fiskurinn er svo miklu meira en omega-3. Rannsóknir hafa sýnt að fiskprótein hefur jákvæð áhrif á heilsufar okkar.



Peptíð vörur



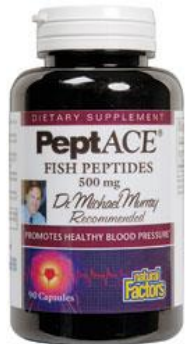
Katsuobushi oligopeptide
(Vasotensin®)
Nippon Supplements



Sardine peptide SP100N
Senmiekisu



Seacure®
Proper Nutrition



PeptACE
Natural Factors



BIO Marine Collagen
Bionutric



Peptides de Poisson
Grand Ocean



AntiStress
Forté Pharma

Matvæli með fisk peptíðum



Apertizers with low GI: Nutripeptin

Cakes and orange juice with Collagen HM



Bread with



laxing properties



Copalis, France

Hugsanleg notkun fisk próteinhýdrólýsata



- improved functional properties

- Solubility →



- Gelation



- Water holding ability



- Emulsifying



- Foaming



Fish collagen peptide cosmeceuticals



**Vselena
Poland**



(H.Kristinsson, 2015)





Collagen

CAS NO.9064-67-9

NC(R)C(=O)N[C@@H](C(=O)N[C@@H](R)C(=O)O)C1CCN1C(=O)N[C@@H](R)C(=O)O


www.arisunchem.com
sales@arisunchem.com





**\$99.70; krukka
með 2 g**



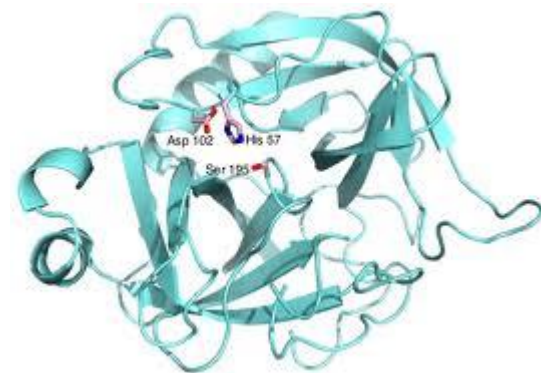
Fish Collagen

Anti-aging helper.
Repair damaged cells.
Lock up moisture.
Return youth and beauty to you!

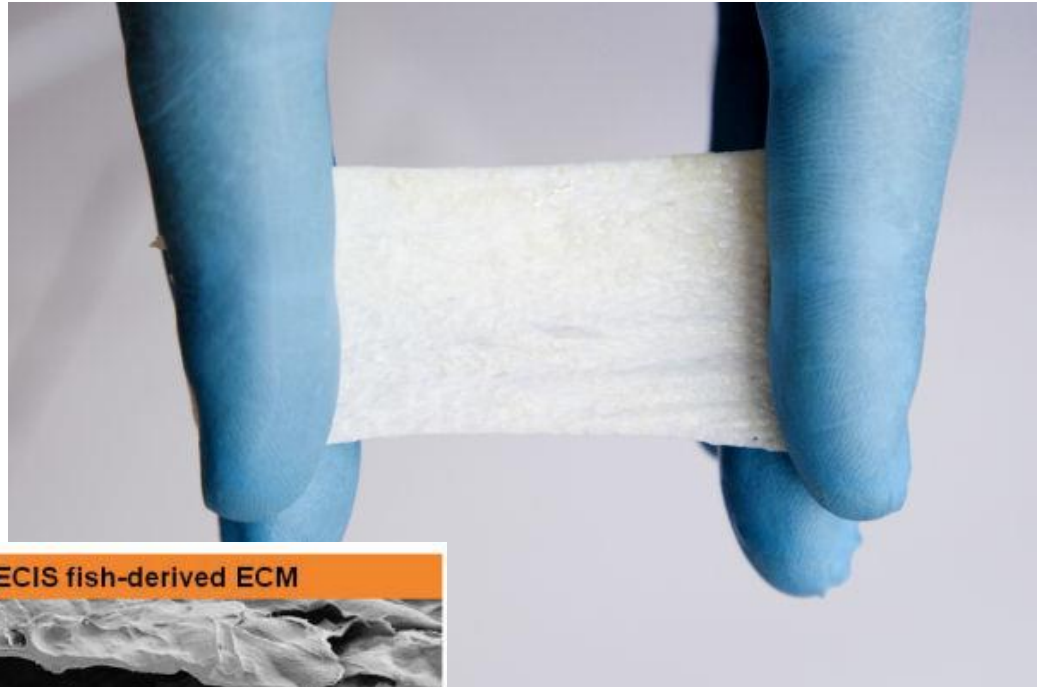
Fish enzyme cosmeceuticals



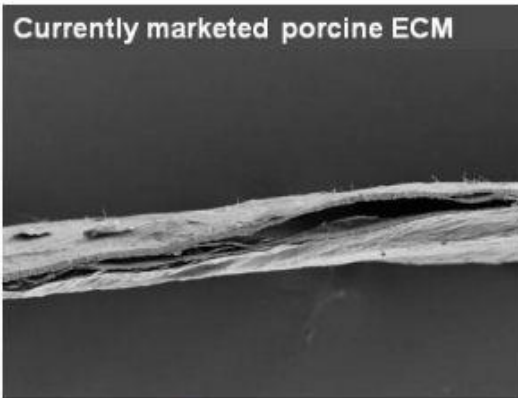
**Zymetech
Iceland**



KERECIS Iceland

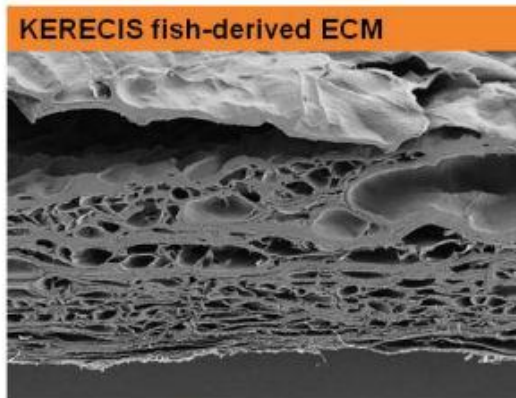


Currently marketed porcine ECM



▶ 300x magnification, SEM

KERECIS fish-derived ECM



▶ 300x magnification, SEM

Tissue regeneration

Roď í leður



Verðmætaaukning hráefnis



Fiskprótein/peptíðs

Fiskmjöl



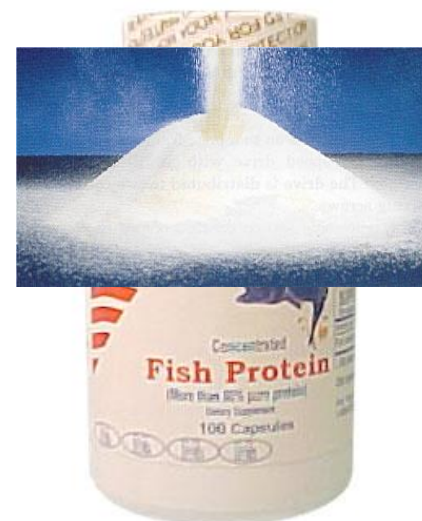
0,13 ISK/g prótein

SeaCure



81,33 ISK/g prótein

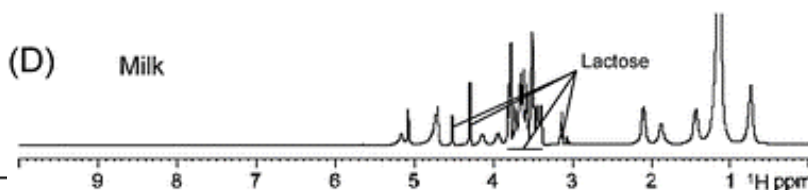
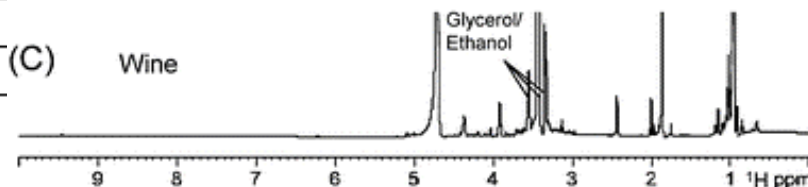
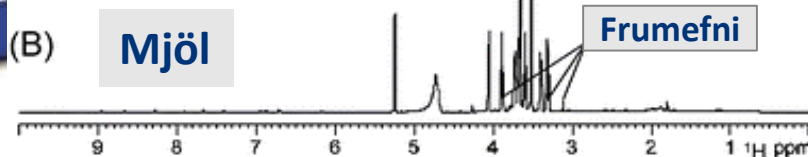
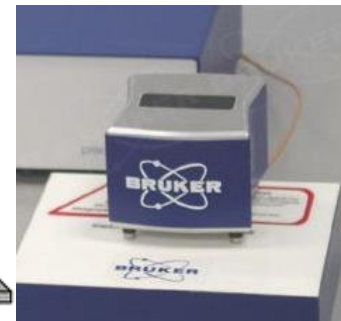
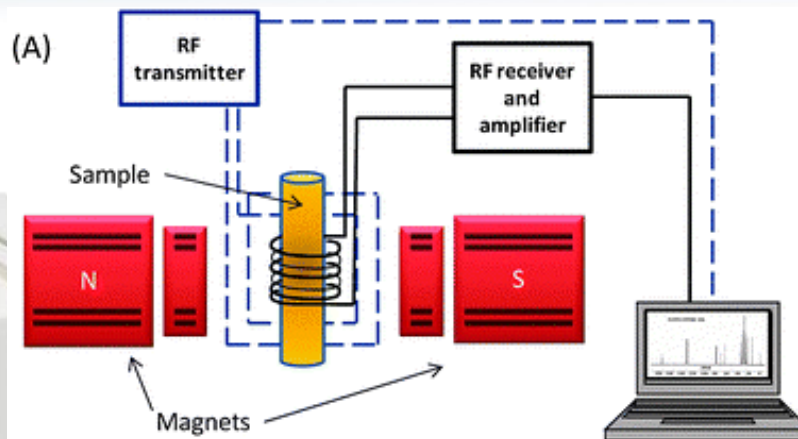
Vita Springs



79,90 ISK/g prótein

625 faldur munur!

NMR mælitækni



Magnetic field

Magnetic field

Temperature

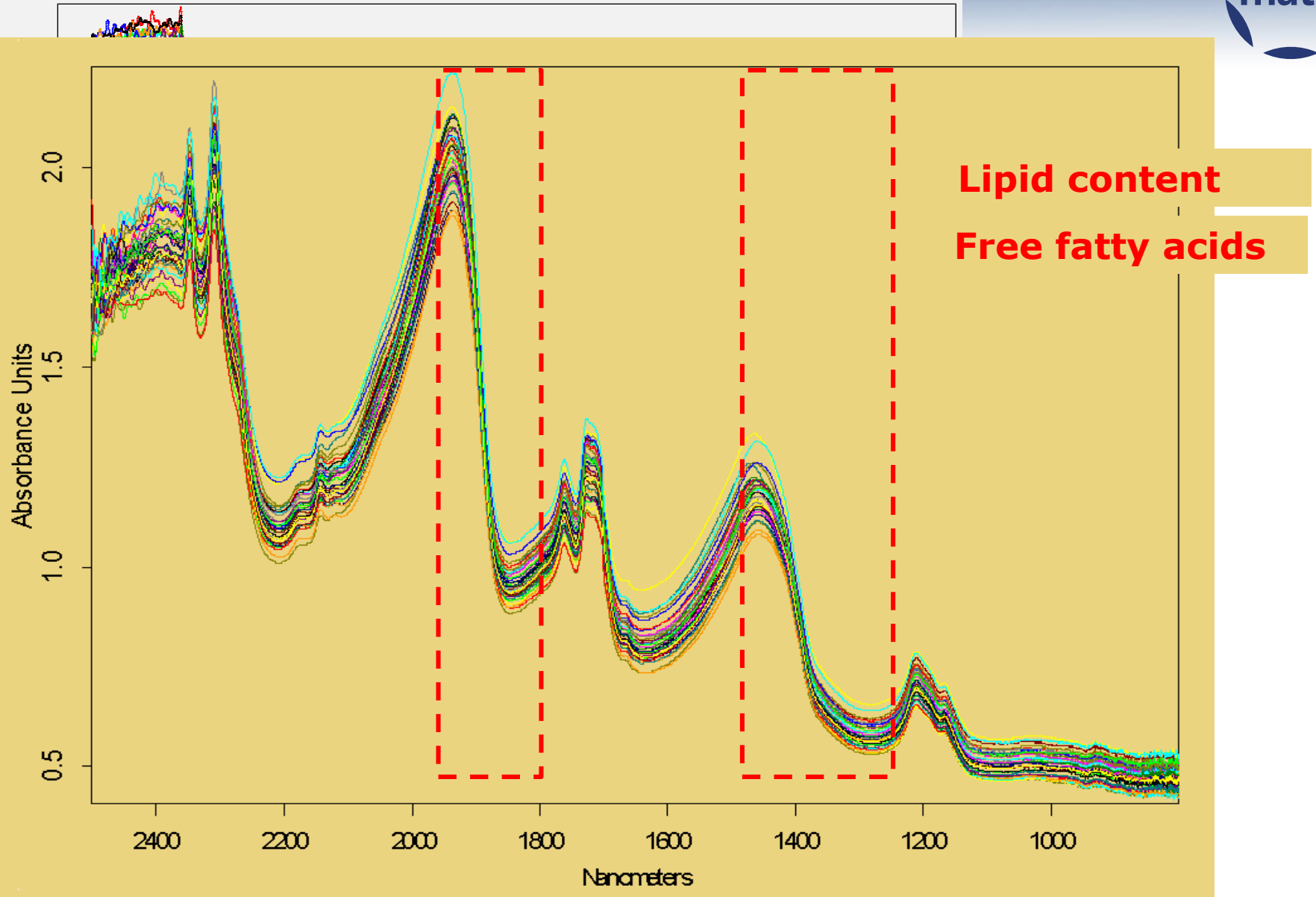
Sample size

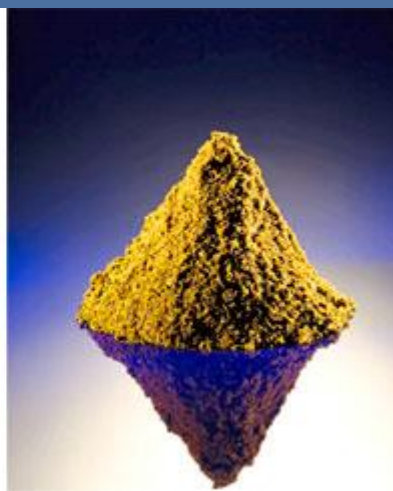
Sample weight

Profiler surface scanner

neous (10T/m at surface)

plane and approx.
depth





Changes in the Global food system



Chainreversal

