

# Marked, marine proteiner.

Hvordan arbeide med internasjonalt marked

Workshop hvitfiskmel, Ålesund 2014-02-28.



# Spice Girls

.....so tell me what you want, what you really really want.....



# Utnyttelse av restråstoff fra hvitfiskflåten

Stein Ove Østvik, FishTech, Ålesund 16.1 2014.

- Tillgang ikke brukt restråstoff.
- Om mulig, separere lever, melke, rogn, ryggbein.
- Ensilering av restråstoff ombord.
- FPC, hydrolysert marint protein. Hordafôr, kanskje også for human konsumtion?
- Fryst restråstoff fra havsflåten til landbasert industri.
- Spesialprodukter: Torsketunger og kjaker.
- Råstoffkvalitet som grunnlag for økt verdi.



# The Protein Ingredient Industry Is Considered A High Demand/High Growth Market With Multiple Sources

## Animal Source



- ▶ Casein (dairy)
- ▶ Whey (dairy)
- ▶ Egg-white
- ▶ Gelatin
- ▶ Fish

## Plant Source



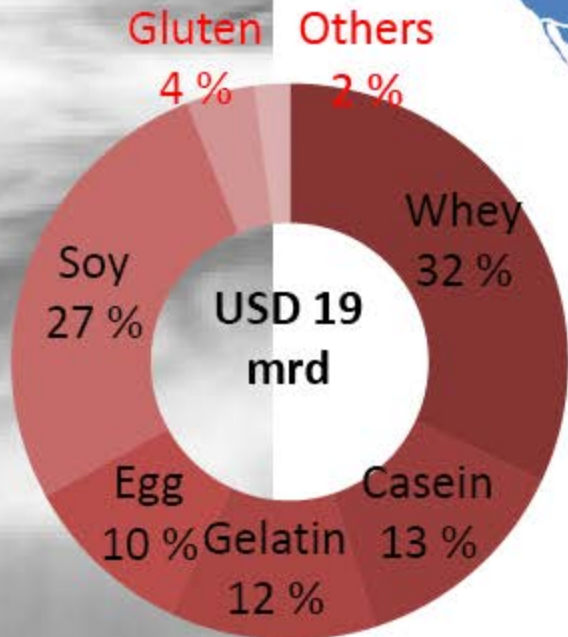
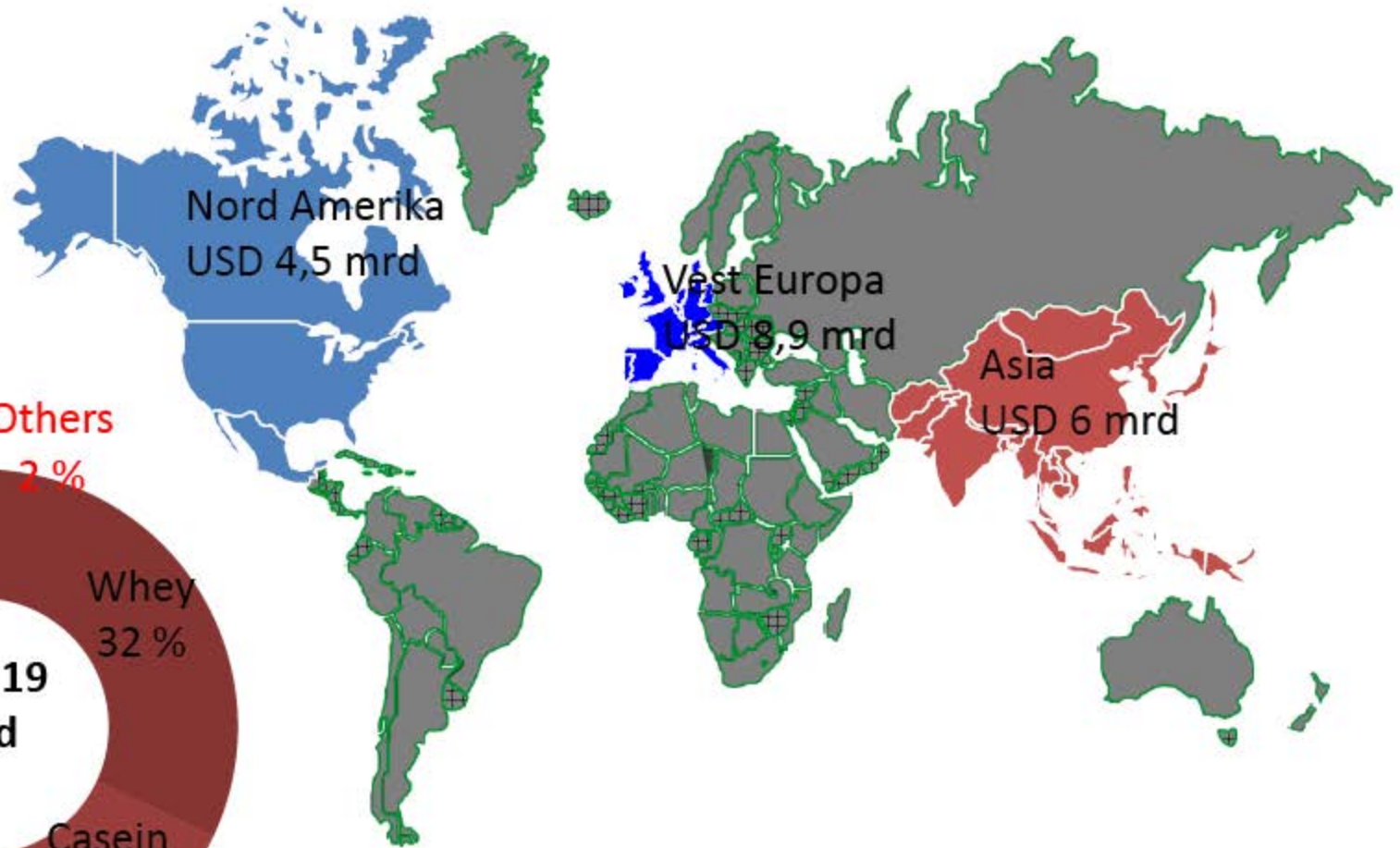
- ▶ Soybean
- ▶ Wheat  
Gluten
- ▶ Other: Pea,  
Canola,  
Potato,  
Hemp, Flax,  
Rice,  
Rapeseed

## Single Cell Source



- ▶ Yeast
- ▶ Algae
- ▶ Fungal  
("Quorn")

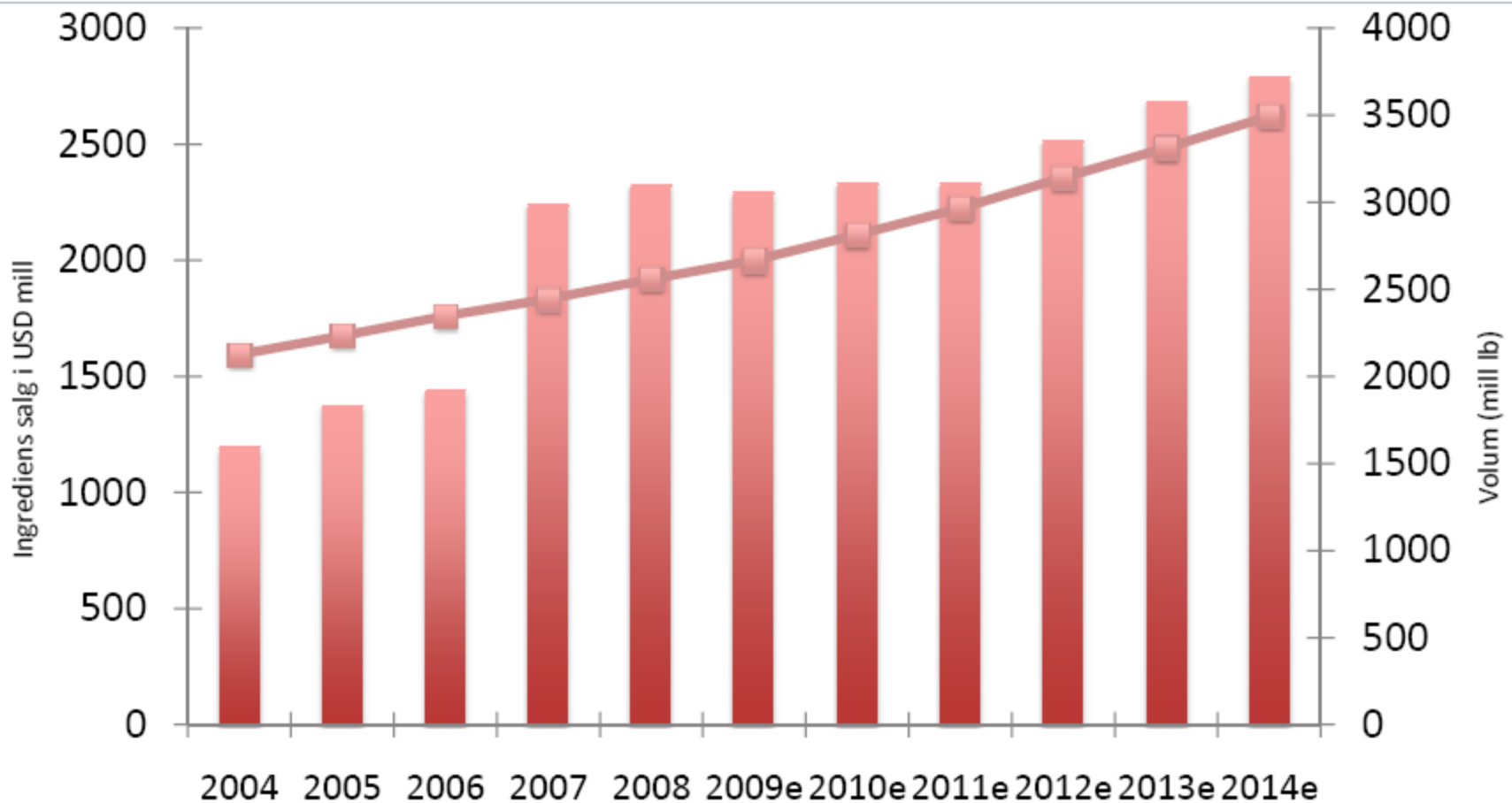
# The Market for Protein Ingredients



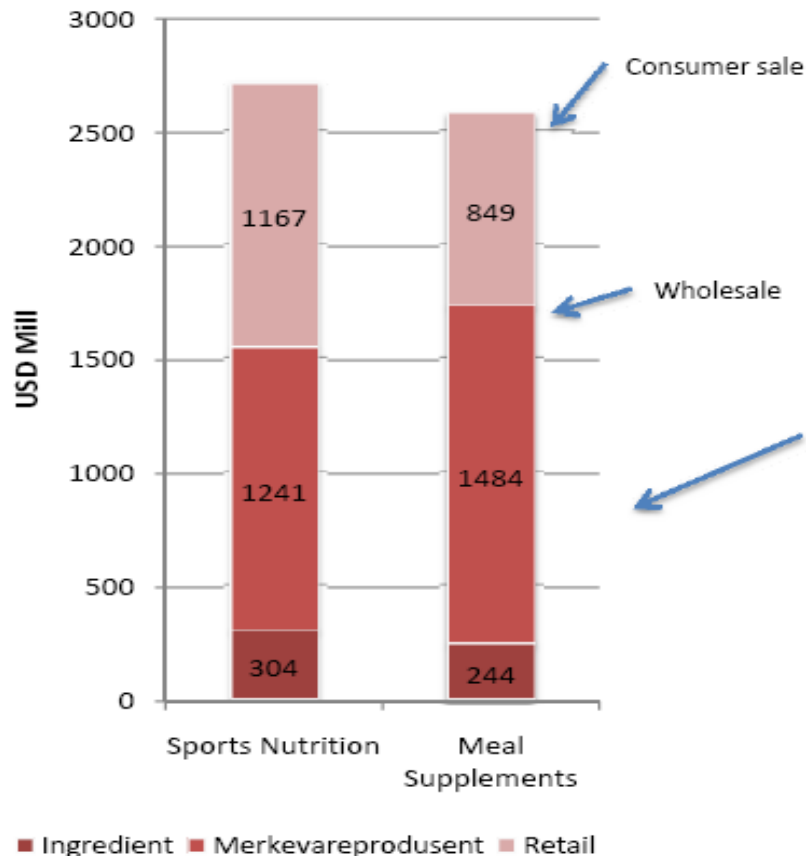
# The US Protein Ingredients Market Is Growing Constantly At About 5% On A Volume Basis And ~15% On A Value Basis

**US PROTEIN INGREDIENT MARKET FOR HUMAN NUTRITION 2004-2011 EST.**

*(in USD million and million pounds)*



# The Sports Nutrition and Meal Supplement market are of special interest

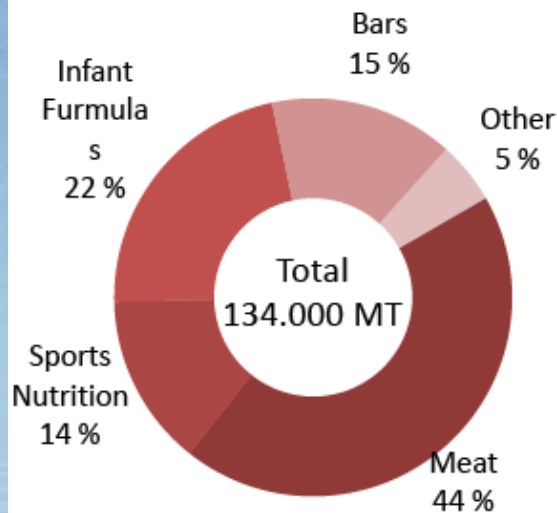


- The value of the Ingredients market represent 9-10% of the consumer market
- The Sports Nutrition and Meal supplement raw material market experience a growth of 9,5-11,2% (2007 – 2008)
- Value of the US Omega-3 supplement consumer market

# Whey protein concentrate and Whey and Soy Protein Isolate - main products used in Nutrition Products

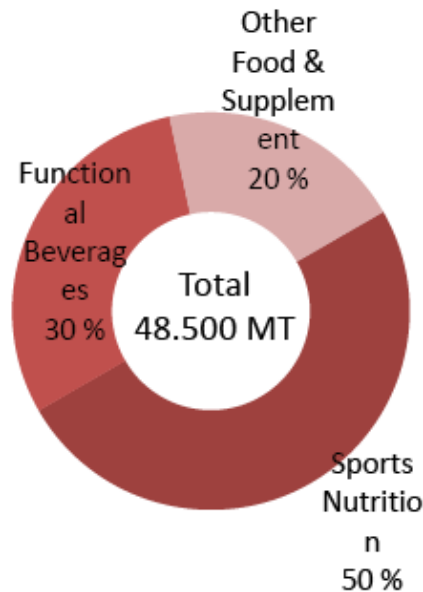


SOYA PROTEIN ISOLAT



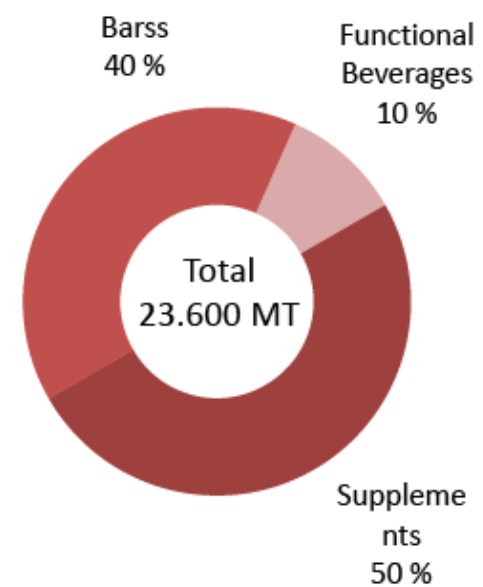
Prices: \$3,5/kg - \$6/kg

WHEY PROTEIN CONCENTRATE



Prices: \$5/kg - \$9/kg

WHEY PROTEIN ISOLAT



Prices: \$10/kg +





Interviews with top marketing companies indicated that a new protein product will need competitive pricing, good taste, clinical substantiation and stability testing.

- In general, the biggest hurdle is taste and odor for bar or powder application as companies have struggled in the past with fish oils.
- Companies are not willing to include any ingredient which will compromise their product's taste.



## Interviews with companies, cont.

Heart, weight and performance (sport) are the most important health areas.

In order to make claims, on a dietary supplement, companies like GNC require thorough substantiation:

- At least two positive human studies to show reproducible results.
- Randomized, double blind, placebo controlled, independantly managed.
- Publication not necessary, but GNC will require a full copy of the study on file.



## Interviews with companies, cont.

Evidence of meeting shelf-life requirements needs to be proven:

- Supplier needs to at least show data indicating appropriate shelf life.
- At least one year for bars and two years for powders.





# The Initial Entry Strategy For Fish Proteins Must Be To Steal Share Rather Than Building Demand

- Competition with whey and soy will be challenging
  - Soy is acceptable for vegetarians, has a heart health claim, acceptable ingredient pricing, strong ingredient brands, good consumer recognition and substantial clinical evidence
- Whey is strongly accepted in the athletes' community for its health benefits which have strong clinical substantiation; whey is often appreciated for its functional benefits as well
  - Competition with whey could be possible as a unique, innovative protein if there is a minimum of specific clinical evidence provided at competitive pricing
- Better bioavailability is interesting but it needs to be attached to a main primary health benefit and clinically substantiated
  - It seems that whey and soy are considered highly digestible already, so there might not be enough of a benefit to many companies

*At this time the market is large enough to offer a great opportunity to simply “grab share”. If Fish Protein is found to have superior health properties that can be validated, then they can focus on building demand.*



# The needed work to be done to entry the market with a new premium ingredients should not be underestimated

- Both supplement and food companies have increasingly cut their costs and consider functional ingredients as a threat to their margins if no premium pricing with the consumer can be achieved
- Food companies face strong price competition at retail and thus seem to be more open to look at value-added ingredients in new product lines where a premium price could be possible, however, the time frame can be fairly long
  - Dietary supplement companies have a narrow bandwidth for ingredient costs, determined by their need to reach a retail price of \$10-15 per month in mass markets
- The difference between foods and dietary supplement prices is that food applications are more price sensitive and require lower prices, but often are of higher volume
- Food applications generally require a lower concentration than supplement applications, making the need for expensive extraction technology less relevant
- The time to enter into a supply agreement or partnership with a food company seems to be about 24-36 months for new food introductions, and 12-18 months for food product re-launches; while dietary supplements can be as short as 6 months
- Dietary supplement companies often have a slower scale-up process than commodity food companies, allowing an ingredient player to grow with the challenges

# Interest for Fish Proteins – Targeting several health Areas

## GOALS AND NEEDS OF LEADING F&B PLAYERS ACROSS DIFFERENT HEALTH CONDITIONS

PRIORITY RANKING #	HEALTH CONDITION	GOALS AND NEEDS	PROTEIN OPPTY?
1	Weight loss / weight management	Strong interest by all players; most players are actively looking for solutions, however, not all of them are considering bioactives, especially in mass market foods; perception of short life cycle and fads in combination with regulatory uncertainties is keeping established F&B brands away; food players are looking for food-like ingredients or more complete approaches to the problem; supplement companies seem to be interested in the next unique ingredient	Yes, many products are increasing levels
2	Heart health	Considered the leading long term priority by many players – while the market for mass market heart health foods / beverages is not quite as attractive as for weight loss, many players are seeing it as a more credible long-term category and are actively looking; dietary supplement companies seem to be looking for new technologies actively; less mature need in meal replacements	Yes, neatly tied into weight mgt and other conditions
3	Diabetes	Some level of interest among nutritional companies, however, market size still considered too niche (using a mass market perspective) by most F&B players; many players shy away from “medical image” of the diabetes category; monitoring activities but not actively looking for solutions;	Yes, continual focus on ↓carbs and ↑protein
4	Metabolic syndrome	Some level of interest among interviewees, however still considered “too early” and too complex for any mass market interest; some companies mentioned they are monitoring the development of the concept but are not yet looking for solutions; more interest in niche markets, such as MLM, practitioner, and mail order; might become “hot” for MR companies	Yes, connected with other conditions
5	Age-related muscle loss	Considered unattractive category and not on priority list by most F&B companies; some limited interest but not currently actively searched for; most interest by meal replacement and sports nutrition companies.	Yes, significant high protein oppty

# Most interesting opportunities

## Sports Nutrition

- Motivated consumers
- Still a fragmented market
- Bioavailability, muscle building, recovery and omega-3
- "Hardcore sport nutrition buyers spend 40 times more per month than the average US consumer spends on Nutritional supplements."



## Age related muscle loss

- Sarcopenia
- Final product form critical



# Most interesting opportunities, cont.

## The weight market:

- Companies always on the search for a new big hit
- Interests for new ingredients
- Expect a long entry process



## Heart health:

- Soy already established a good position, but fish protein with omega-3 an interesting opportunity.





# Utmaningar

## Teknologi

- Ingen smak eller lukt av harsken fisk.
- Stabilitet, shelf-life.

## Dokumentation

- Dokumenterad hälsoeffekt, uoberoende kliniska studier.
- Spesifikation, kemiska analyser, aksepterte metoder.

## Applikation

- Stabilitet, smak, m\u00f8jligen h\u00e4lsoeffekt.

## Salg

- Posisjon i verdikjeden, barriers to entry, logistikk, ev. partners.



# Hvordan komme igang?

- Markedet for marine proteiner til humant bruk basert på restråstoff er ekstremt liten.
- Salg av nye produkter på ny marked.
- Involler bør separeras.
- Samarbeide på leverantørssiden for å hjelpes åt med arbeidsbördan.
- Finansiering via virkemiddelsapparat.



# Hvordan komme igang?

IFU, Industrielle forsknings- og utviklingskontrakter.

- Samarbeide mellom leverantör og en krevende kunde.
- Varighet 1-3 år
- Administreres av Innovasjon Norge.

Valg av kunde kritisk for fremgang.

- BIP?, Brukerstyrt Innovasjonsprosjekt.





Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020)

## WORK PROGRAMME 2014 – 2015

9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy.

Call for Blue Growth: Unlocking the potential of Seas and Oceans.

Sustainably exploiting the diversity of marine life.

Improving the preservation and sustainable exploitation of Atlantic marine ecosystems.

Administrer av Innovasjon Norge.



# Hvordan komme igang?

- Dialog med potensielle kunder avgörande. Finn ut hva som er interessant for kunden.
- Pro forma spesifikasjon: Hvis jeg tillverkade dette, og det ville koste så mye, skulle dere kjøpe så?
- Eventuelt letter of intent, intensjonsavtale.
- Klargjør hva kunden ønsker kjøpe innen investering i utstyr.
- Bra med en hjemme marked, lokal partner.



# Hvordan komme igang?

Hvordan komme i kontakt med blivende kunder?

- Bruk konsulenter med gode kontakter hos blivende kunder.
- Innovasjon Norge sine utlandskontor.
- Besök konferenser, mässor og presentere ett konsept.
- Benytte Open Innovation som en måte å komme i kontakt med storföretag.



Key success factor

Be flexible. Listen to

# The Voice of the Customer



....so tell me what you want, tell me what you really, really want.....



CORE COMPETENCE

Back up slides





# A Rubin Project: : Opportunities for marine proteins in the American Health and Nutrition market

## ACTIVITY

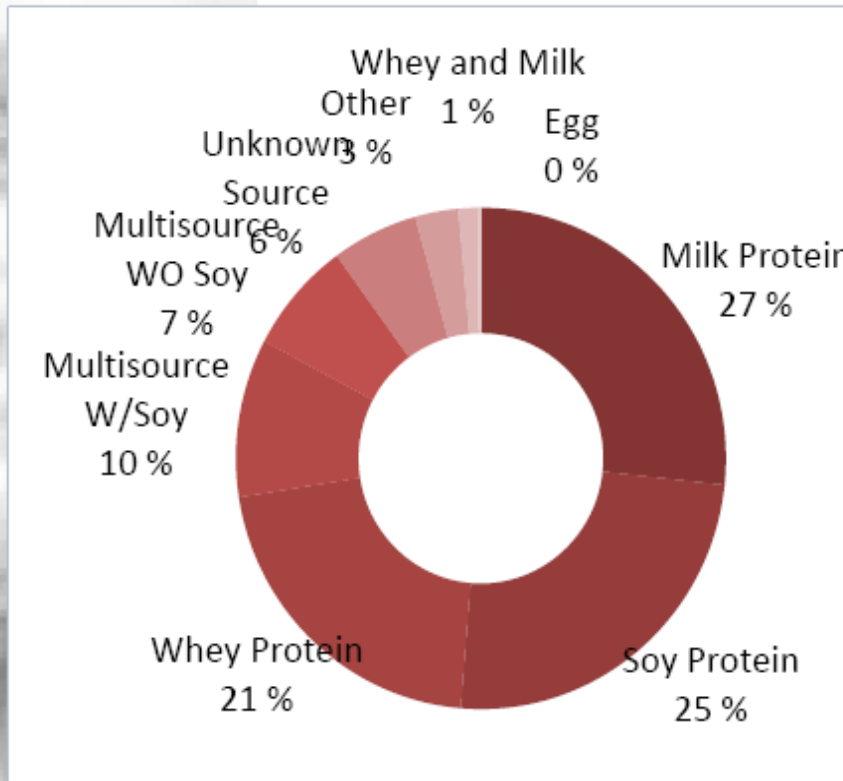
- Overview of market and value chain
- Highlighting leading market segments
- Competitive landscape analysis
- Overview of current users of protein
- Highlight the decision making and purchasing process
- Approaching select customers for feedback on proteins in general and a new potential fish protein technology
- Workshop with the Norwegian Industry and Research community

## SELECTED COMPANIES INTERVIEWED

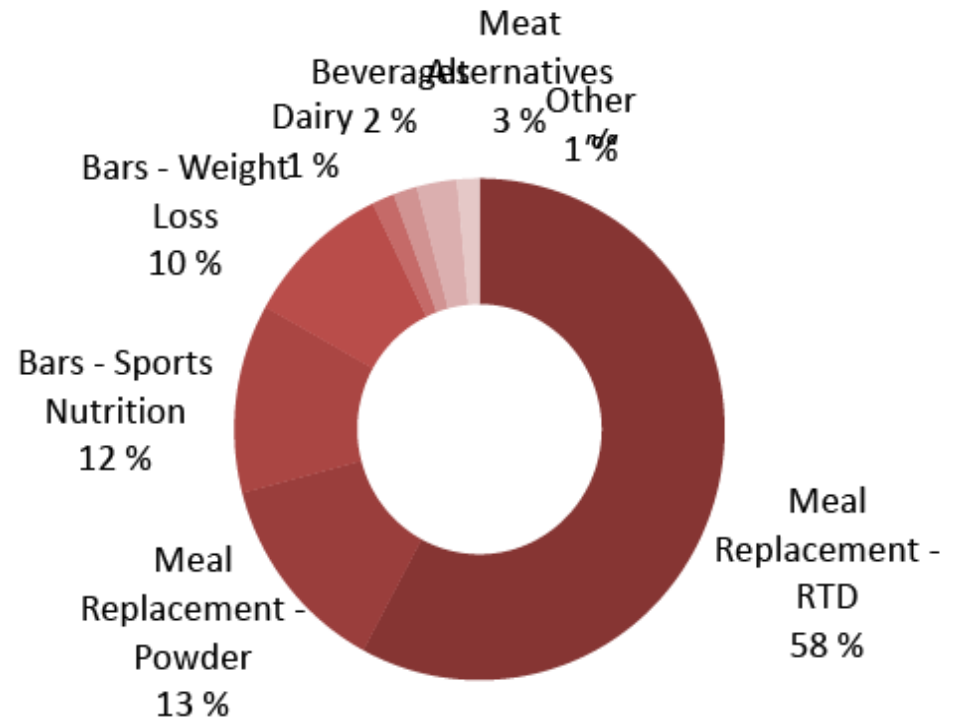
Schiff	BioChem
Elan	Welch's
Interhealth Nutraceuticals	Met-Rx
Schiff	GNC
Metagenics	Weider
Glanbia/Optimum Nutrition	Burcon
Herbalife	Century Foods
GenR8	Imaginutrition
Hill's	Nestle-Purina



# The Largest Share Of Protein Ingredients In Human Nutrition Is Used In Meal Replacement Powders ...



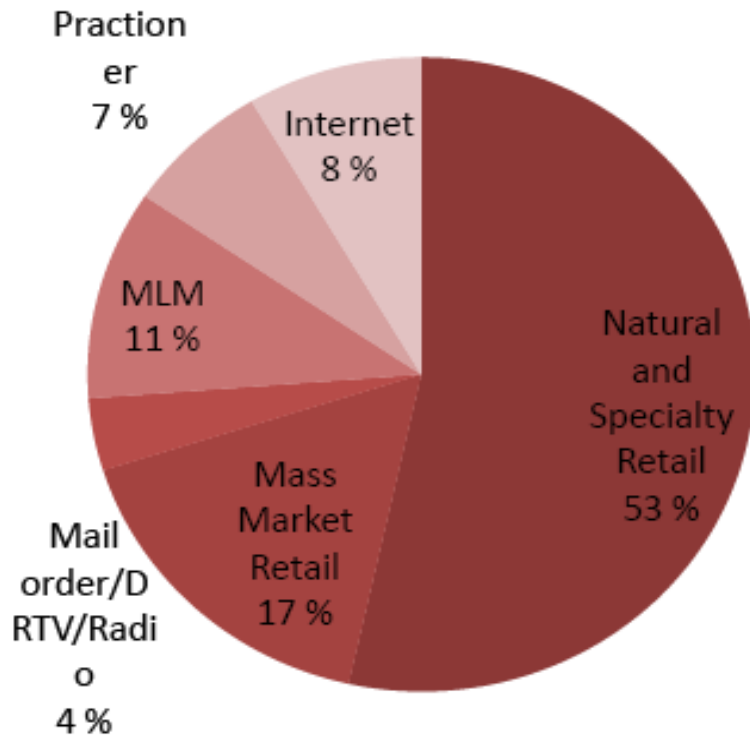
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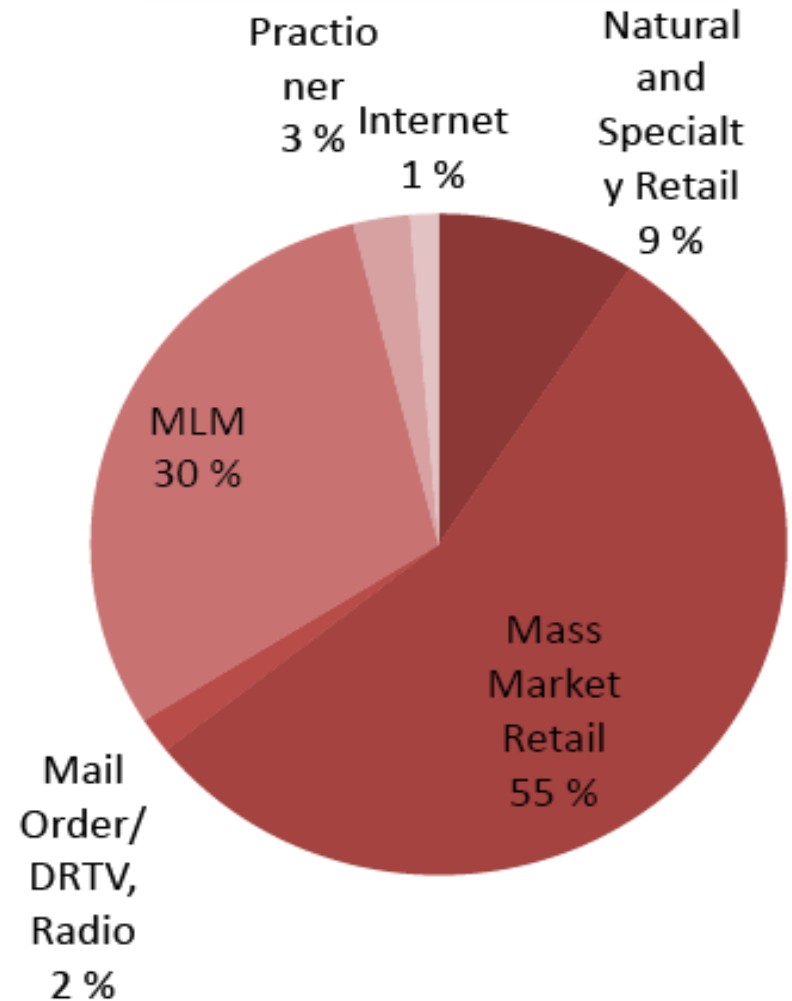
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# The majority of the sales of Sports Supplements are in Speciality Stores

Sportsnutrition



Meal Replacement Products



## We believe Fish Protein Ingredients Has Significant Potential to Be A \$35-40 mill market In The US

MARKET SEGMENTS	INGREDIENTS	2007 CONSUMER SALE (\$M)	% OF TOTAL MARKET	EST. PROTEIN INGREDIENTS SALE (\$M)	GROWTH
Functional Foods & Beverages (protein beverages and "bars")	Soya	\$2.241	6,80%	\$179,28	4,70%
	Animalsk Protein	\$2.496	6,70%	\$149,76	4,30%
	<b>Totalt</b>	<b>\$4.737</b>	<b>13,50%</b>	<b>\$331,59</b>	<b>4,50%</b>
Dietary Supplements (meal supplements and sports nutrition)	Soya	\$2.563	6,80%	\$256,34	4,70%
	Animalsk Protein	\$1.455	6,70%	\$123,68	4,30%
	<b>Totalt</b>	<b>\$4.019</b>	<b>21,00%</b>	<b>\$369,70</b>	<b>4,50%</b>
Natural/Organic Foods (meat alternatives, snacks)	Soya	\$1.046	6,80%	\$115,01	10,50%
	Animalsk Protein	\$412	6,70%	\$28,85	9,00%
	<b>Totalt</b>	<b>\$1.458</b>	<b>13,50%</b>	<b>\$131,20</b>	<b>10,20%</b>
	<b>Totalt</b>	<b>\$10.213</b>	<b>16.45%</b>	<b>\$832.49</b>	<b>5,31%</b>

*Additionally, pet nutrition (companion) animals offers a distinct opportunity with a protein market of around \$200-250M.*

# Big companies with strong brands are dominating the Meal Replacement market



## SHAKES



## BARS



## POWDERS





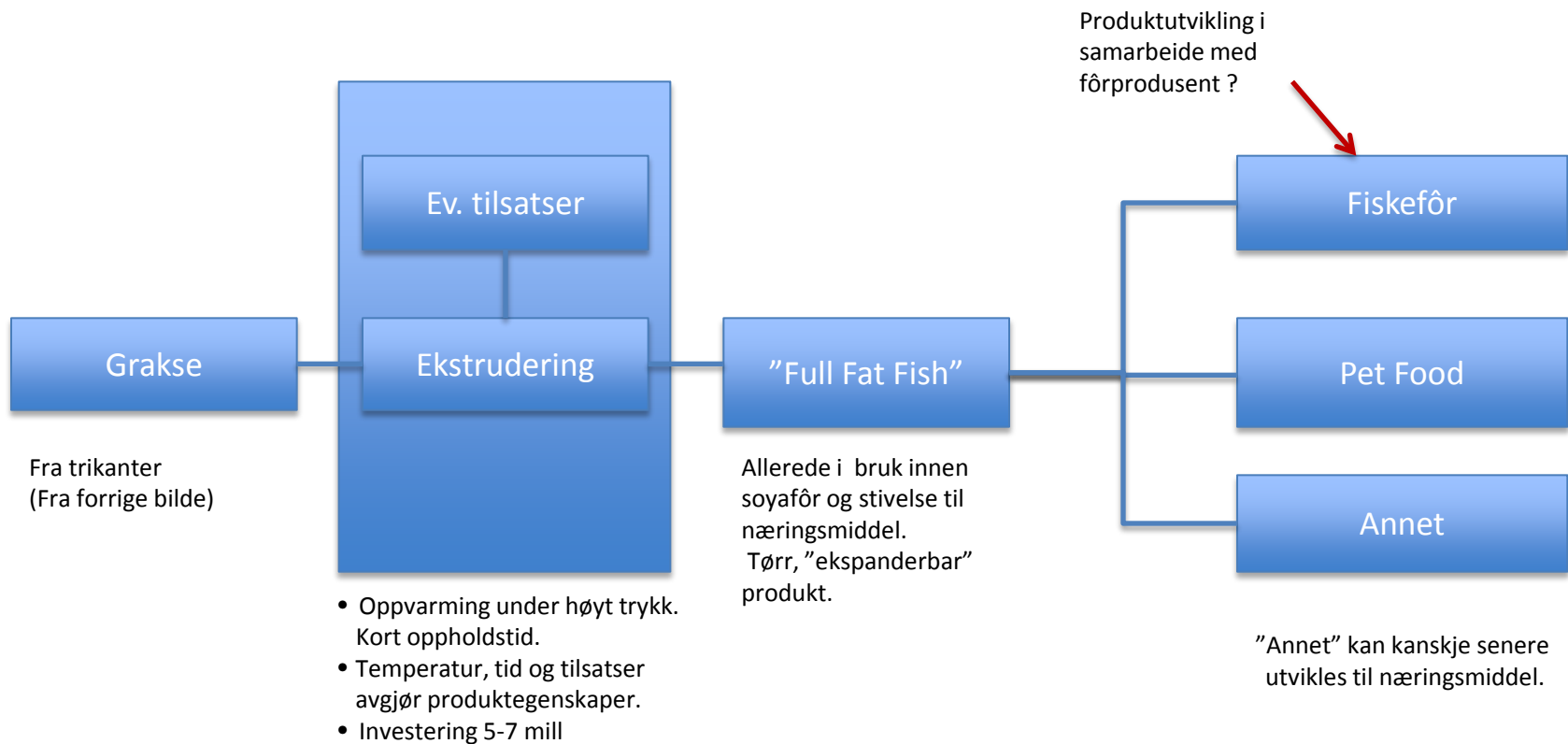
# Økt verdi gjennom bedre kunnskap om potensialet ved råvaren i samarbeid med nye og eksisterende kunder

- Økologisk laks trenger sertifisert råvare
  - 30-50% premium ift "standard" laks
  - "Økologisk" er det rasket voksende næringmiddelsegment i Europa
  - Tosifret vekst alle år (bortsett fra 2009) siden 2000
- Lavere omega-3 andel enn Sør Amerikanske olje, men flere andre fordeler
  - Oksidasjonskvalitet
  - Næringsmiddelkvalitet fra råstoff til ferdigprodukt
  - Biprodukt fra filetering/Bærekraft
  - Tran og lakseolje er populære – hvorfor ikke sildeolje?
- Nye potensielle kunder med nye prosesser (f.eks enzymatisk hydrolyse) som kan ha et større verdipotensial





# Muligheter for ytterligere verdiøkning ved prosessering av "fersk grakse"





# Generell prisøkning på marint råstoff har bidratt og vil bidra til verdiøkning uavhengig av tiltak

