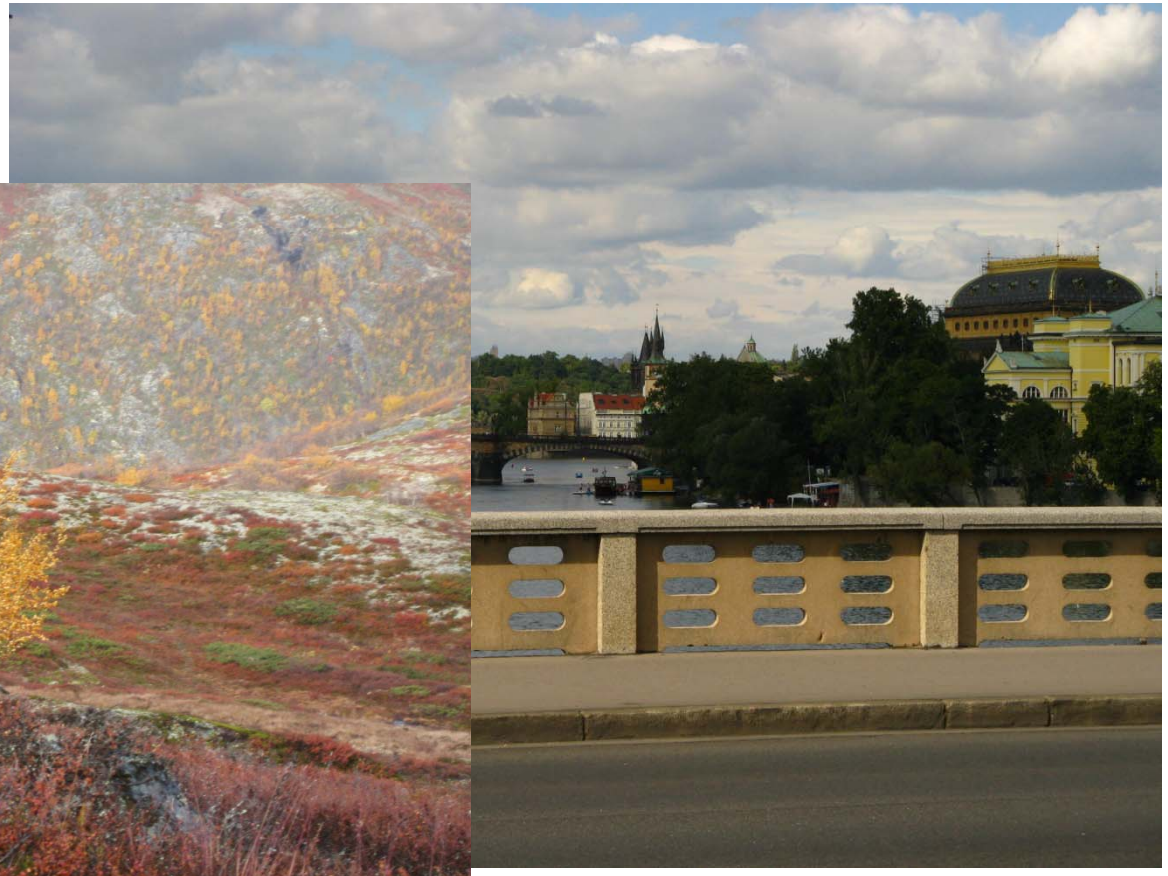
present, Sweden – past, Praha
Jana Pickova

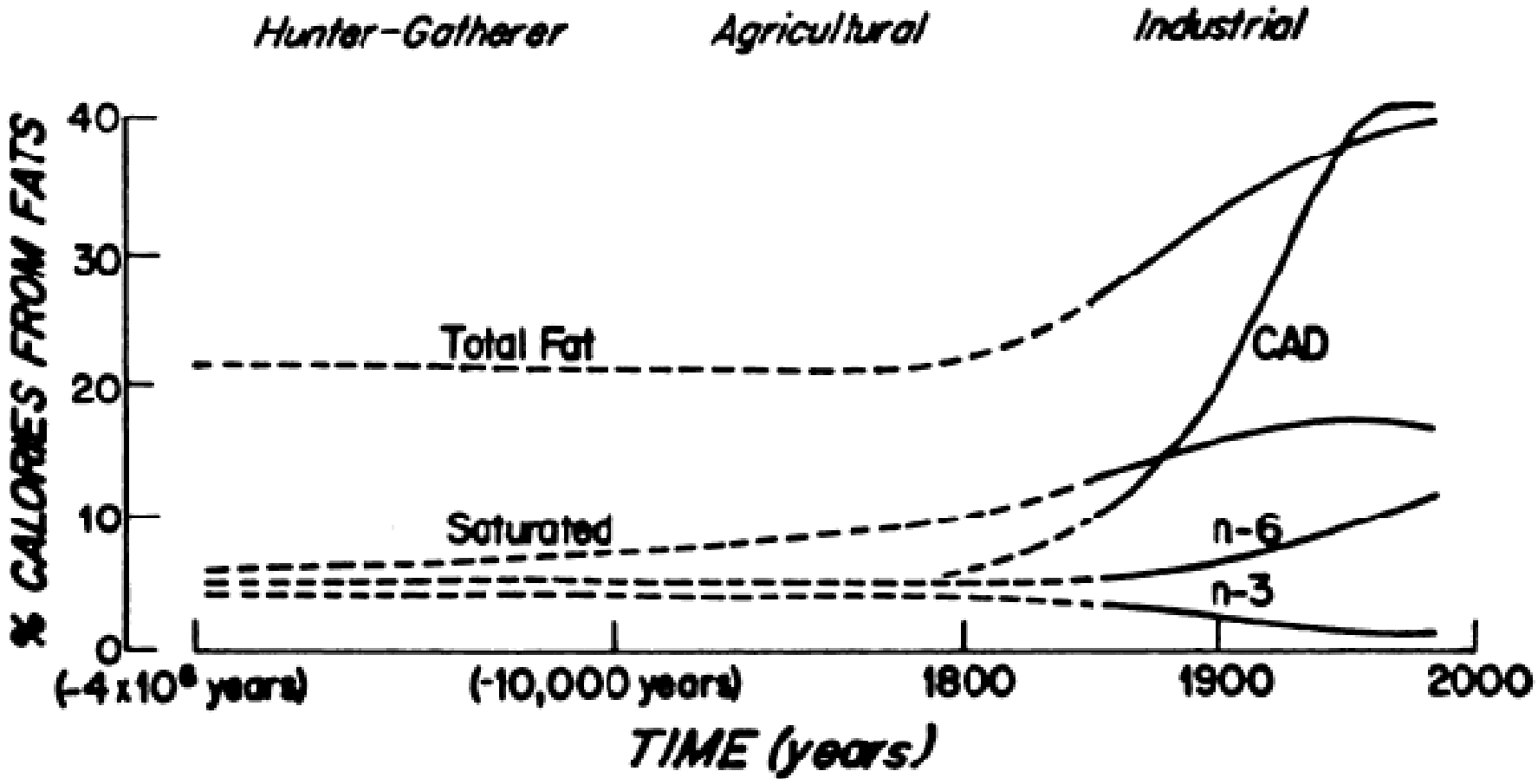


Alternate fish feeds

Fish nutrition for human nutrition

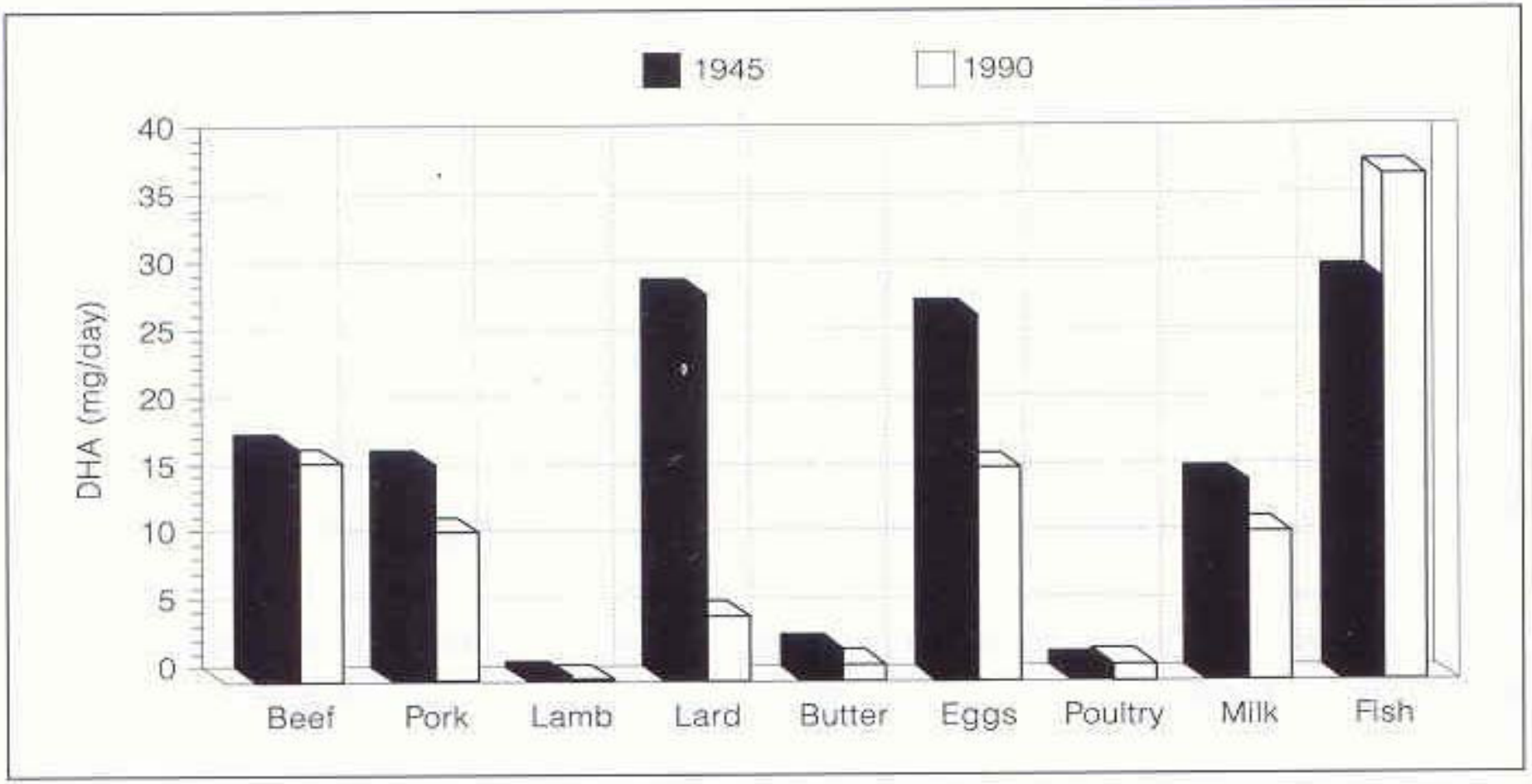
- Fish oil is being replaced with alternate sources
- No long chain polyunsaturated fatty acids in vegetable oils
- Other marine sources: krill, copepods
- Singel cell sources (algae, bacteria, fungi)

History of fat



Leaf A, Weber PC. A new era for science in nutrition. Am J Clin

n-3 DHA fatty acid decrease in human diet

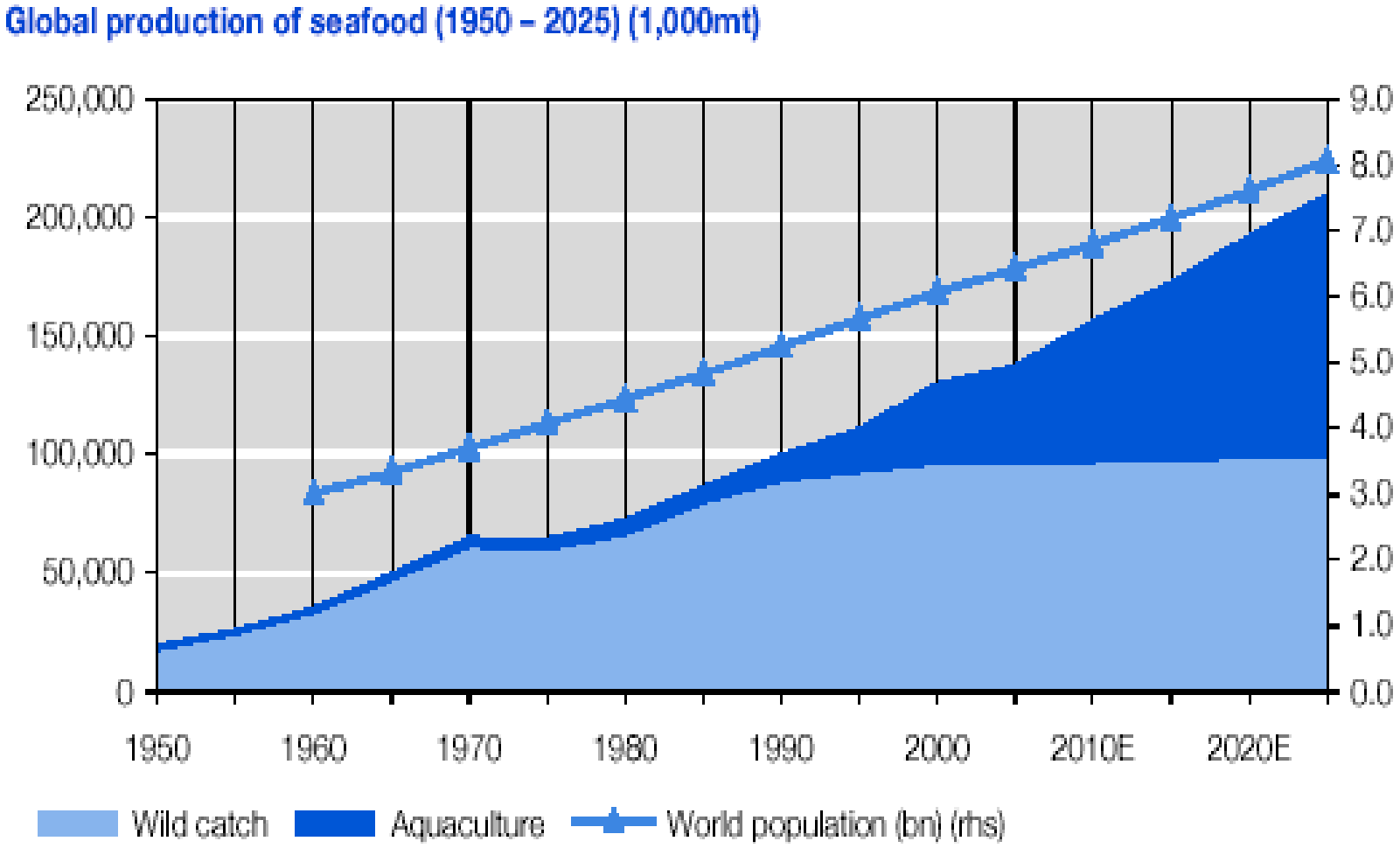


(Kyle & Arterburn, 1998)

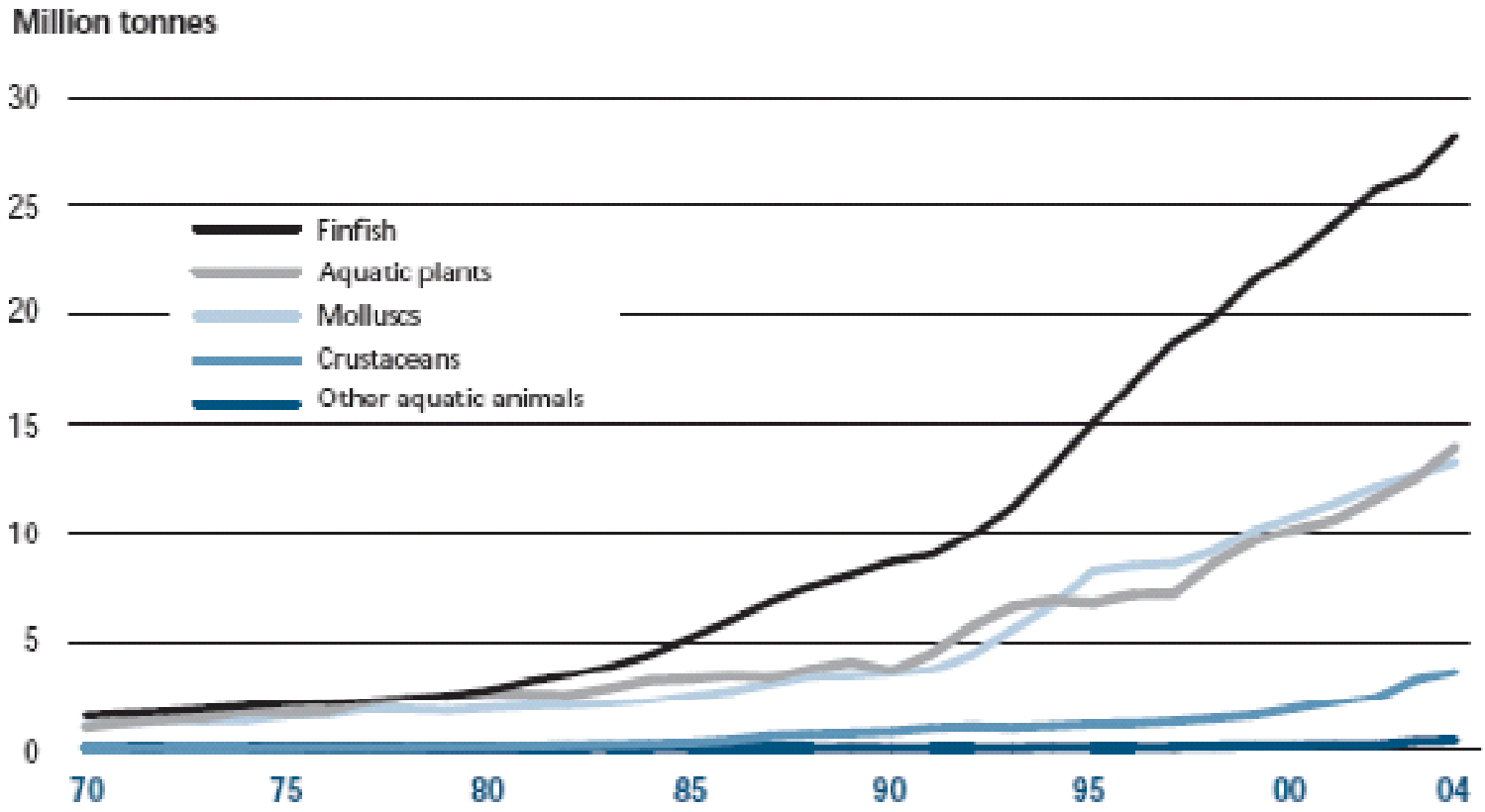
Minor bioactive plant compounds in fish feeds and their effect on fish metabolism

The team: Jana Pickova, Sofia Trattner, Vlada Zlabek, Bente Ruyter, Eva Brännäs, Turid Mörköre, Jan Mraz, Andreas Pettersson, Vera Adamkova, Birgitta Strandvik, Sabine Sampels, Afaf Kamal-Eldin

FAO's 'gap analysis'

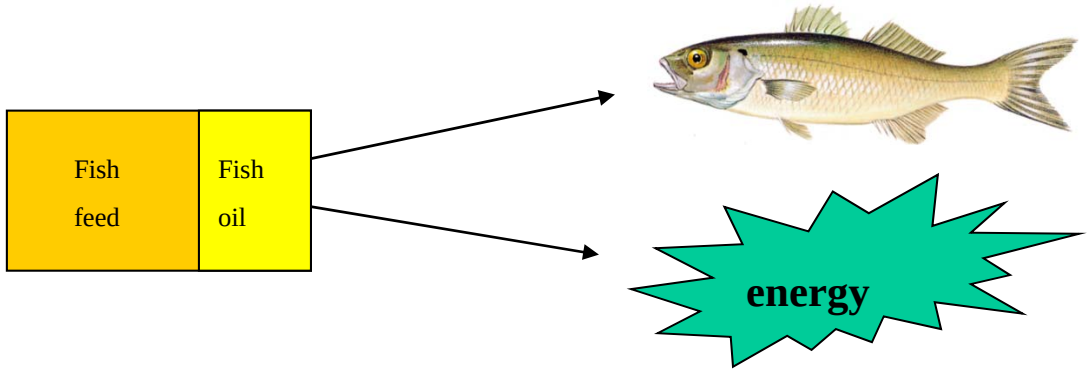


Farming of finfish growing at a higher rate than other aquaculture species – the growth continues

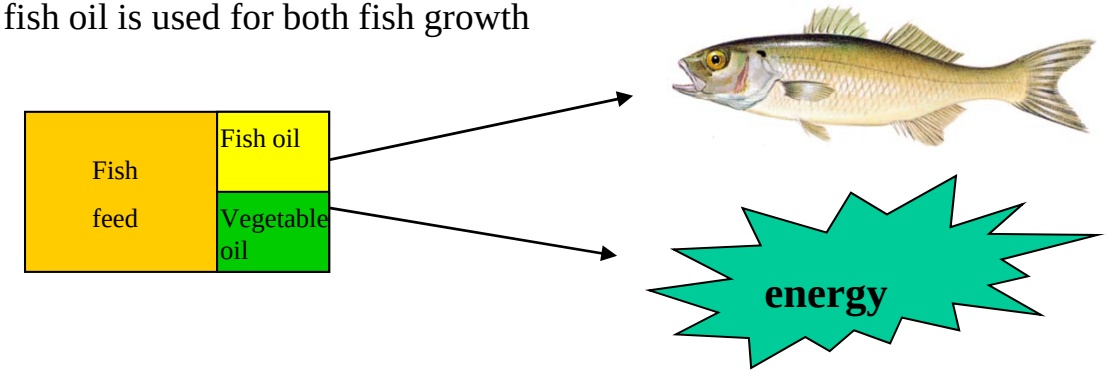


Finfish: Compounded average growth rate of about 9.5%

Future aquaculture: Vegetable oil can 'spare' fish oil in predatory fish

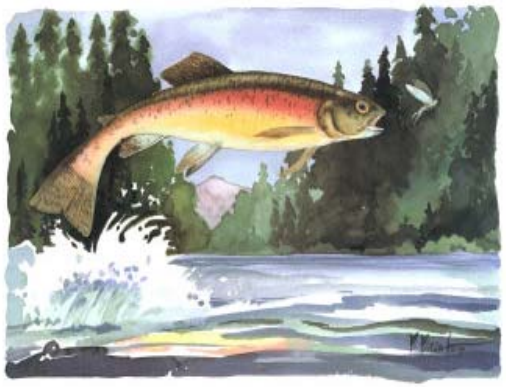


In a diet with only fish oil, that fish oil is used for both fish growth and energy supply



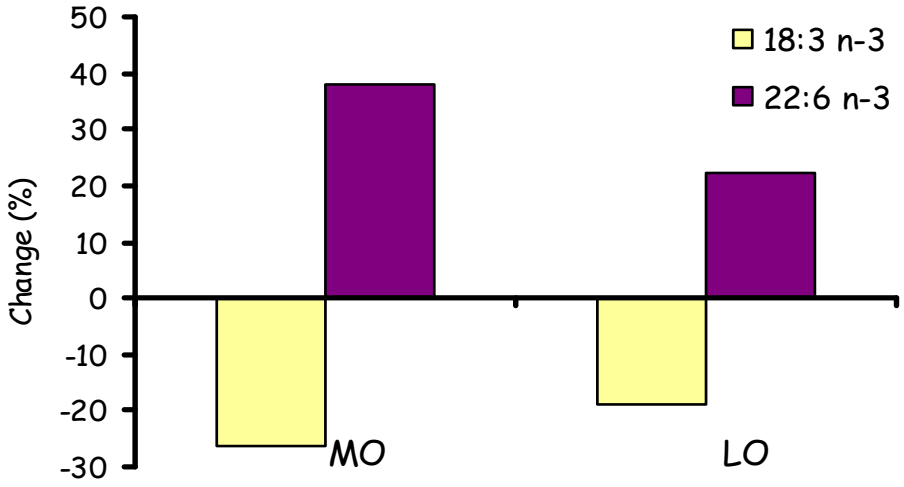
In a diet with a mixture of fish oil and vegetable oil, that fish oil is spared for fish growth and vegetable oil used for energy supply

Aquaculture

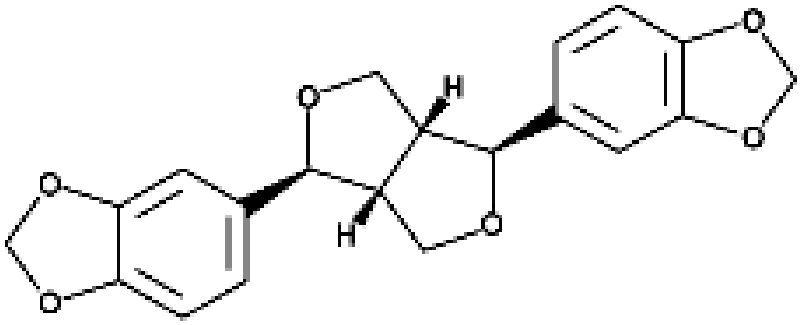


Sesamin in fish

Increase DHA in rainbow trout white muscle



Affect gene expression in hepatocytes



Conclusions

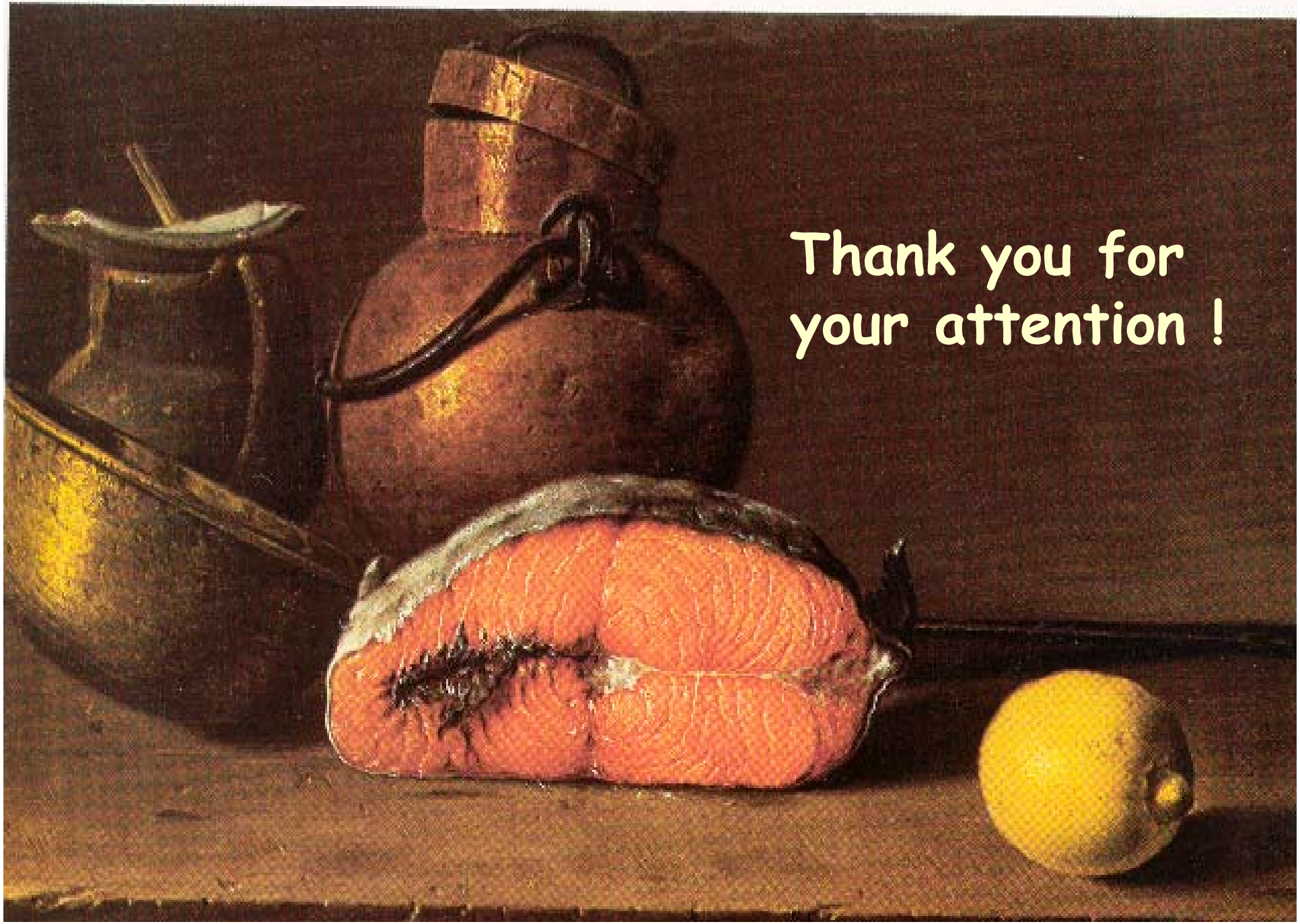
Carp is a good species for future in relation to climate changes

Ongoing studies in collaboration Uppsala – USB Vodnany

Public health

Importance of omega-3 LC PUFA

Metabolic syndrome


Thank you for
your attention !