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International Feed Industry Federation

Closing the effiency Gap: the feed industry perspective

Global Agenda of Action Workshop

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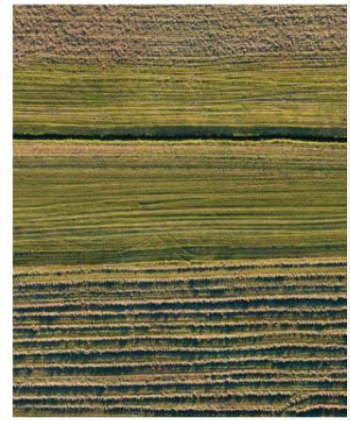

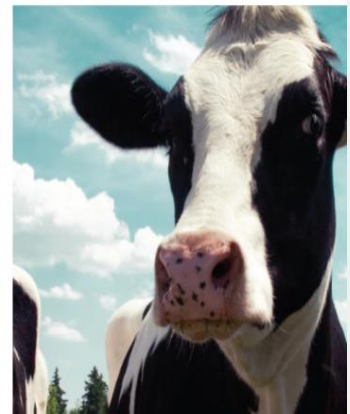

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IFIF is a global organisation

IFIF comprises the whole feed chain and our members represent over 80% of the global animal feed industry.

- IFIF is made up of
  - national feed and supplier associations
  - corporate members
  - feed related organizations

Note: Most countries do not have a feed sector sufficient to support a national feed association

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IFIF's mission

- IFIF provides a unified leadership and coordinating role to promote the global feed industry in order to contribute to the sustainable supply of safe, healthy feed and therefore food.

Challenges

- Land, fossile fuels…
- Mineral ressources…
- Food commodities
- Food coproducts
- …

Competition for ressource use

2 parallel pathways :

1. **Reduce resource consumption**
2. **Reduce competition for resources by moving towards feed specific resources**

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A few examples

- Reduce resource consumption
  - Land
  - Agricultural commodities
  - Mineral resources
  - Marine resources
- Increase the use of feed specific resources
  - Co-products
  - (recovered) food waste

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Improve the use of available land

- In some cases it might be wise to grow more crops specifically designed for feed use.
- They are very often less resource consuming, less sensitive to diseases and can provide a better yield that crops grown for human consumption purposes but used for feed because they do not meet technical food grade requirements.
- Example : bread making wheat

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Better use of available agricultural resources…

- Through nutritional know-how
  - Good characterization of feed ingredients
  - Accurate assessment of animal needs
- Through improved crops
- Through feed processing technology
  - Compounding and peletting enable to bring the exact nutritional requirements : no more, no less
  - Heat treatment can improve feed safety

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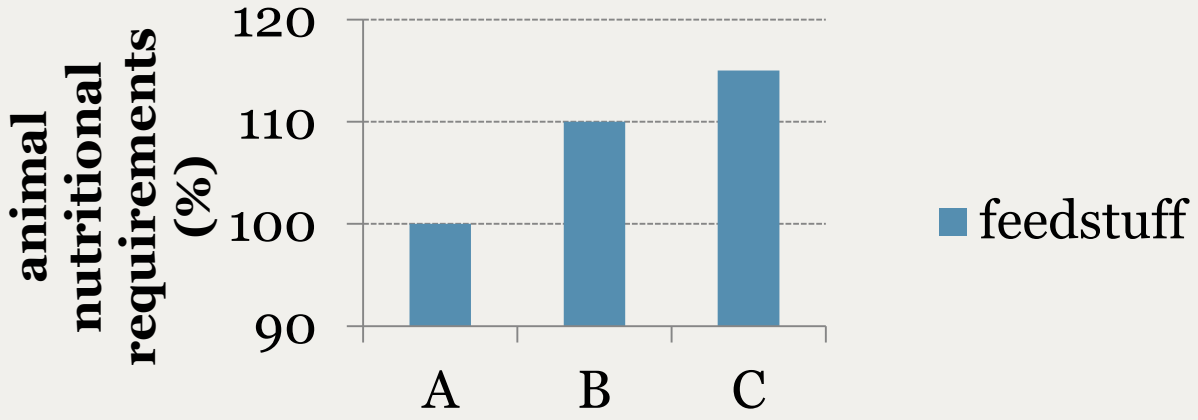
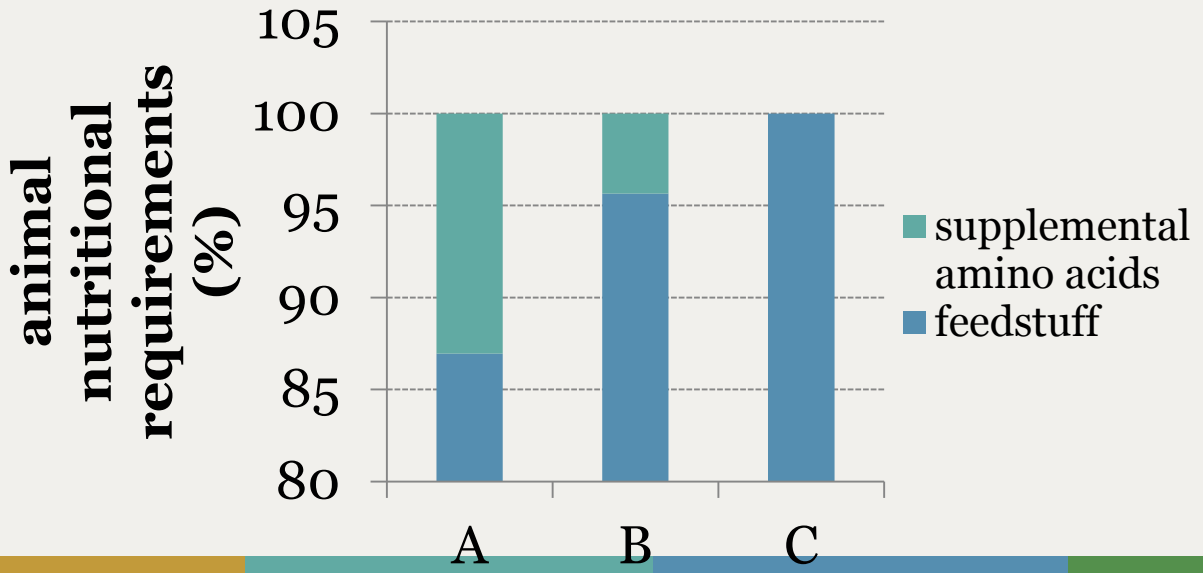
Better use of available agricultural resources through feed additives technology : example of amino-acids



Excess of B and C



Less consumption of A, B and C

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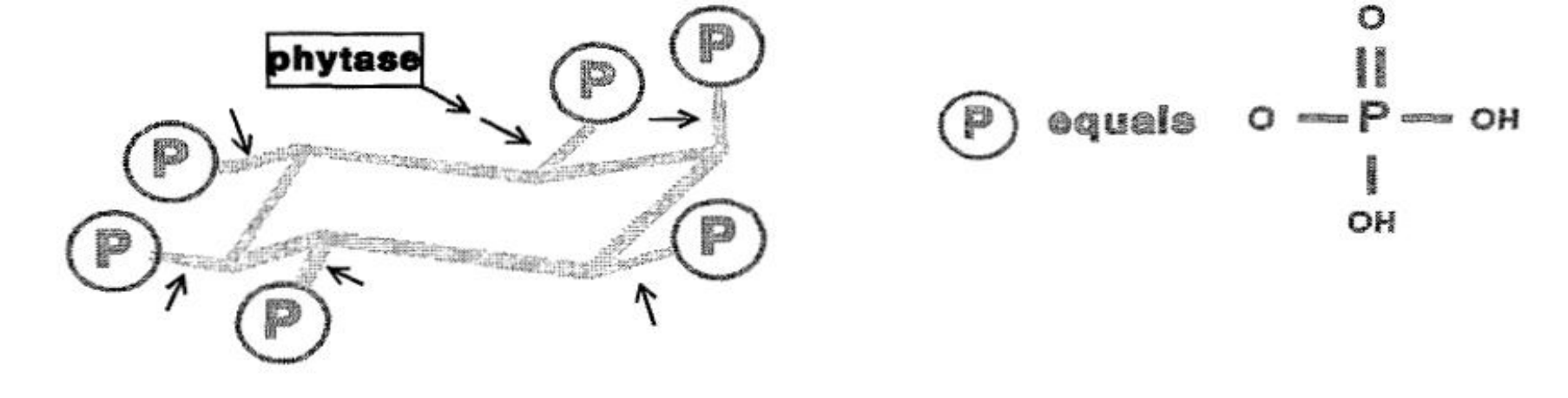
Preservation of mineral resources : example of phytase



- Phytase enzymes can be used to release the phosphorous bound in phytic acids in plant derived feed materials
  - Massive reduction in the use of mineral derived dicalcium phosphates
  - Positive impact on eutrophication with less phosphorous excreted

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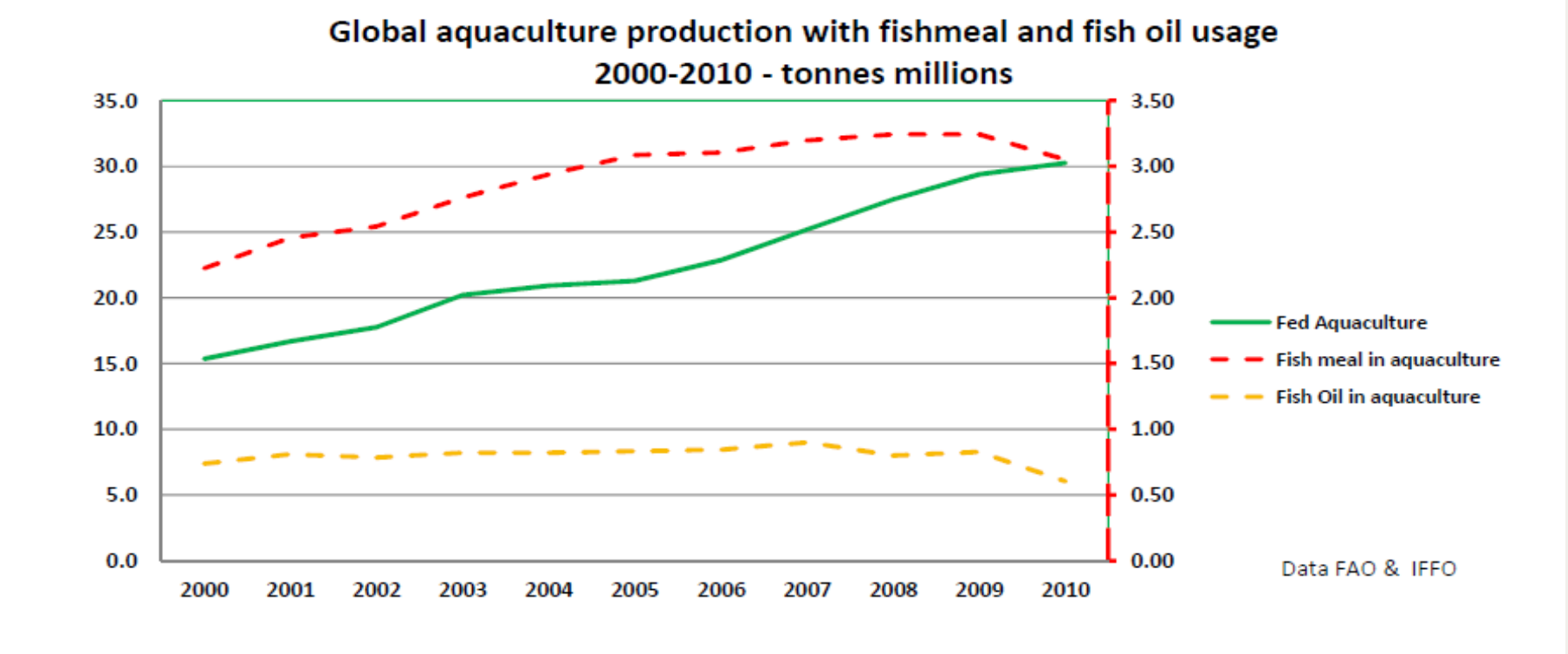
Marine resources

- The growing demand for fish cannot be covered by wild fish alone



- Aquaculture production is growing faster than marine ingredient usage.

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Marine resources : aquaculture as net fish protein producer

- Aquaculture not only consumes fish – it also produces fish
- We should use less fish protein in the feed than fish protein produced through aquaculture!
- R&D a key factor to success to overcome bottlenecks and identify suitable replacers!

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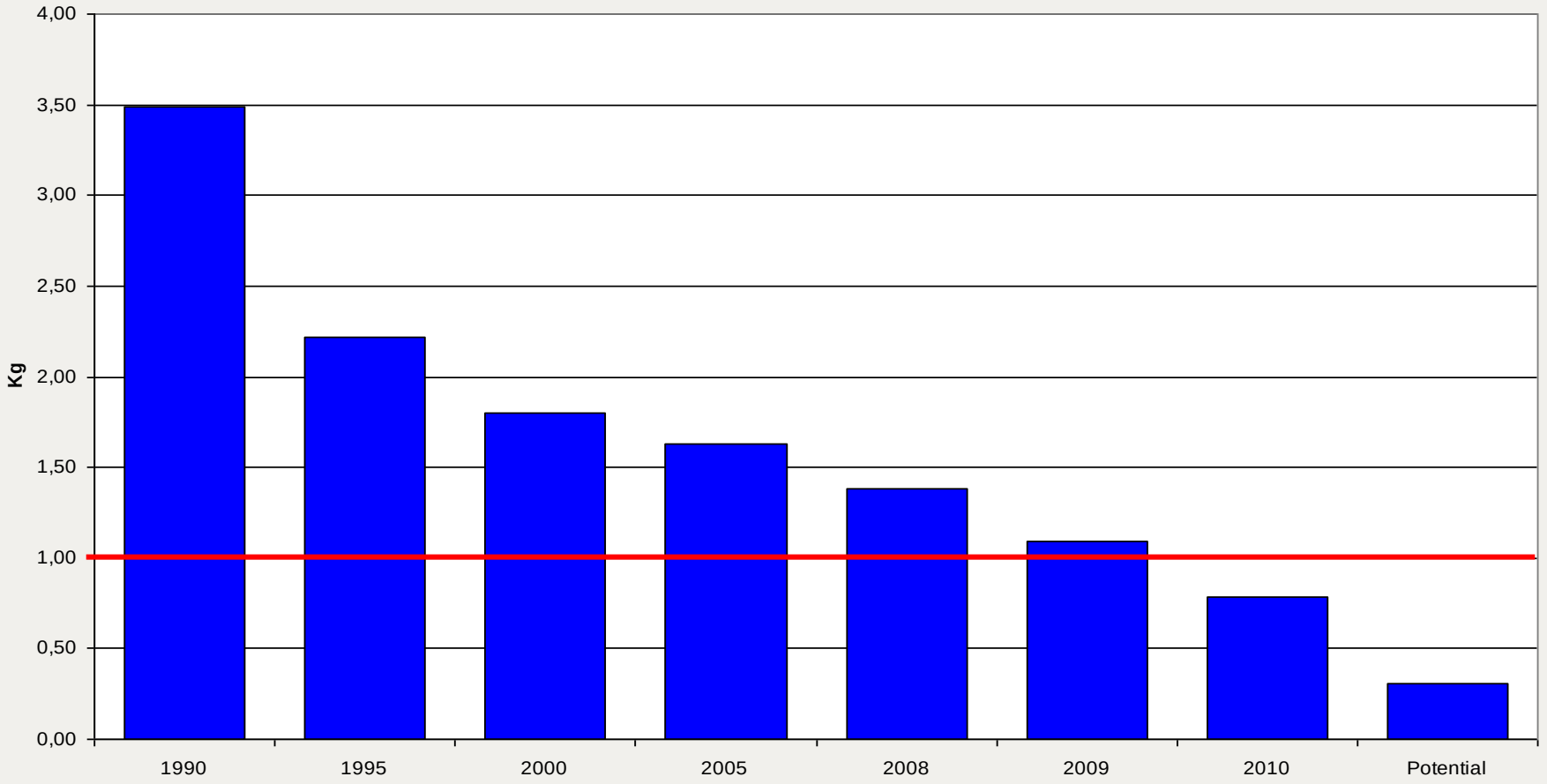
How far are we?

Kg salmon protein produced versus fish protein used in feed



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Fishmeal / Fish oil replacement
Potential new sources

- Krill (and similar marine organisms lower in the trophic chain)
- Plant protein concentrate
- GM derived-plant proteins

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Reducing pressure on human edible resources

- Animals can efficiently use ingredients that are not suitable for human consumption.
- The food chain is aimed at supplying food and drinks for human consumption. However, different flows of other material are generated :
  - Surplus or off-specification food and drink
  - By-products
  - Waste

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How can we make the best use of these resources?

- **SAFETY FIRST**
  - Complete traceability
  - Dissemination of good practices
- Appropriate incentives

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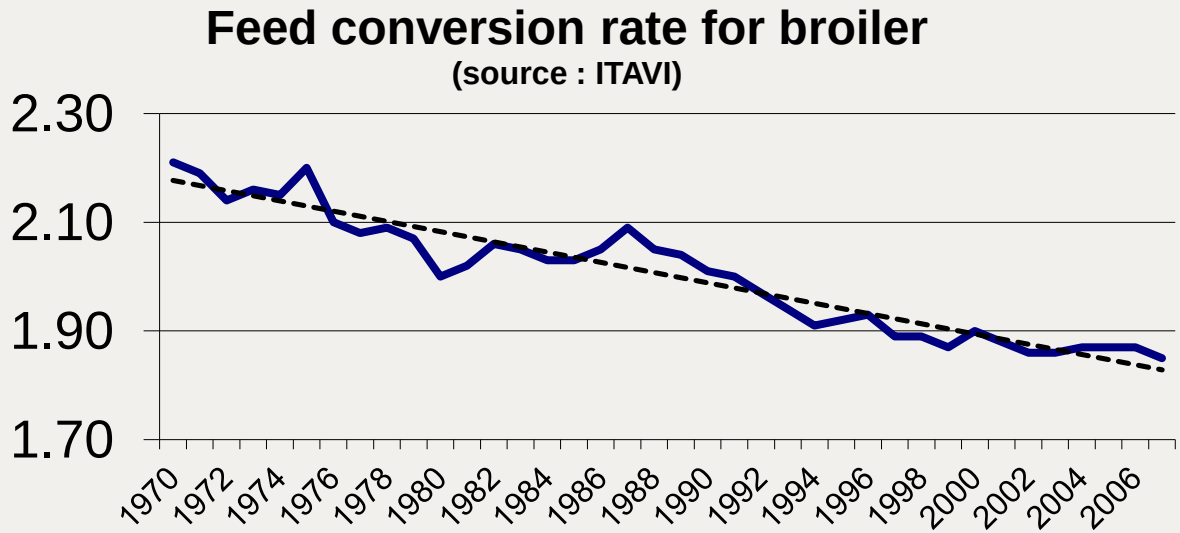
Concluding remarks

- Importance of nutritional know-how



- Need for R&D, science based approach
- Appropriate (methodological ?) incentives.