Closing the efficiency Gap: the feed industry perspective

Global Agenda of Action Workshop
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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
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, fossil fuels...
• Mineral resources...
• Food commodities
• Food coproducts
• ...

2 parallel pathways:

1. Reduce resource consumption
2. Reduce competition for resources by moving towards feed specific resources
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
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
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 pelleting enable to bring the exact nutritional requirements: no more, no less
  - Heat treatment can improve feed safety
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
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
Marine resources

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

Aquaculture production is growing faster than marine ingredient usage.
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!
How far are we?

Kg salmon protein produced versus fish protein used in feed
Fishmeal / Fish oil replacement
Potential new sources

• Krill (and similar marine organisms lower in the trophic chain)
• Plant protein concentrate
• GM derived-plant proteins
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
How can we make the best use of these resources?

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

- Importance of nutritional know-how

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

**Feed conversion rate for broiler**
(source: ITAVI)