Global Organic Aquaculture Regulatory System-Production-Markets

Organic Marketing Forum
Warsaw, Poland: May 6, 2010

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Increasing importance of aquaculture

Source FAO 2006
BioFish Forum: Markets

History of Organic Aquaculture

1994
- National Organic Aquaculture Standards (France, UK)
- Conference Organic Aquaculture FAO/VASEP (Vietnam)

1995
- Coop Naturaplan R&D funds for Organic Aquaculture
- IFOAM Basic Standards for Aquaculture

1996
- California bans labelling of organic seafood products
- First fresh fish counter in organic shops (Germany)

1997
- Organic Salmon conference Soil Association (UK)

1998
- EU Council Reg. (EC) No. 834/2007 including rules on aquaculture

1999
- EU organic aquaculture production rules enter into force 1st January 2009

2000
- Organic Carp (Austria and Germany)
- Organic Salmon (Ireland)
- Organic Blue Mussel (Ireland)
- Organic Shrimp (Ecuador)
- Organic Tilapia (Israel)
- Small-Scale shrimp farmers group certified (Vietnam)
- Organic Seabream (France)

2001
- Organic Micro-Algae (Taiwan)

2002
- Organic Cod (UK)

2003
- Organic Pangasius (Vietnam)
Regulatory System in Europe: Privat Standards
Regulatory System in Europe

  e.g. articles 13 (algae), 17 (fish)


Global Organic Aquaculture Production (in t/a)

- 2000: 3,000 t/a
- 2003: 7,000 t/a
- 2004: 10,000 t/a
- 2006: 16,000 t/a
- 2008: 40,000 t/a
- 2010: 110,000 t/a

*Note: Data is approximate and may have been rounded for presentation purposes.*
Global Organic Aquaculture Production 2009

- **Europe**
  - No.: 123
  - Vol.: 24,500 t
  - Trend: ↑↑

- **Asia**
  - No.: 75
  - Vol.: 19,000 t
  - Trend: ↑↑

- **Africa**
  - No.: 1
  - Vol.: 2,000 t
  - Trend: ↑

- **Australia/New Zealand**
  - No.: 12
  - Vol.: <1,000 t
  - Trend: ↑

No. = number of operations
Vol. = production
Trend = emerging operations
Global Organic Aquaculture Production 2009

- Salmon: +52%
- Shrimp: +40%
- Pangasius: +10%
- Sea bass/Sea bream: +78%
- Trout: +31%
- Tilapia: +5%
- Sturgeon: +1.5%
- Red Drum: 
- Carp: 
- Grey mullet: 
- Crayfish: 

Aquaculture production in Poland

- About 60,000 ha pond area
- Main commercial fish species:
  - a) Common Carp about 20,000t (intensity decreasing)
  - b) Trouts about 15,000t

*Pictures from www.pankarp.pl/angielski.html*
How to produce carps organically?

- max. 1.500 kg/ha/year (also in polyculture)
- Fertilization according Annex I (EC) No.889/2008 max. 20 kg N
- Additional feeding needs to be approved
- Natural soil in ponds
- Organic origin of juvenile fish: min. 20% (12/11); 50% (12/13); 0% (12/15)

(no use of hormones for spawning of carps)
Examples of organic carp projects

www.biofisch.at

www.oberlausitzer-biokarpfen.de

www.biohalak.hu
Role of fish ponds in an agroecosystem

- Fish production (incl. organic fish production)
- Providing habitat for aquatic species
- Maintenance of biodiversity
- Services for recreational fisheries and tourism
- Contribute to water management
- Shaping landscape
- Preservation of traditions

Source: László Váradi (HAKI, Hungary)
How to produce trouts organically?

- Brown trout (*Salmo trutta*), Rainbow trout (*Oncorhynchus mykiss*)
- Stocking density: 25 kg/m³ (land based)
- Carnivore fish species: fish meal & fish oil from conventional sources until 2014
- Colouring: Astaxanthin from natural sources or if not available from Phaffia yeast
### Price Premiums for Organic Fish

<table>
<thead>
<tr>
<th>Species</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carp</td>
<td>38%</td>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>Cod</td>
<td>-</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Grey mullet</td>
<td>10%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Pangasius</td>
<td>8%</td>
<td>10%</td>
<td>NA</td>
</tr>
<tr>
<td>Red drum</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Salmon</td>
<td>32%</td>
<td>32%</td>
<td>33%</td>
</tr>
<tr>
<td>Sea bass/Sea bream</td>
<td>30%</td>
<td>40%</td>
<td>45%</td>
</tr>
<tr>
<td>Shrimp</td>
<td>-</td>
<td>9%</td>
<td>25%</td>
</tr>
<tr>
<td>Tilapia</td>
<td>46%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Trout</td>
<td>37%</td>
<td>31%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31%</strong> (n=27)</td>
<td><strong>29%</strong> (n=39)</td>
<td><strong>32%</strong> (n=34)</td>
</tr>
</tbody>
</table>
BioFish Forum: Markets

Sales Channels by German Organic Fish Farmers in % in 2008

Source: Prof. Hamm, Tobias Lasner, Uni Kassel
Market Deficits 2009 from the Trader’s Perspective

Price Difference
(n=36)

Range of Products
(n=36)

PR & Advertisement
(n=35)

Sales Promotion
(n=35)

Source: Prof. Hamm, Tobias Lasner, Uni Kassel
Distribution of organic seafood
Gastronomy, Fine Food and Food Service

- appreciation of high quality
- higher price segment
- image building
Distribution of organic seafood

Conventional Retail Trade

- most important for seafood
- price competitive
- discounter
- own organic brands
- private labels
- Salmon, Trouts and Shrimps
- Fresh, Smoked, Convenience
- relevance in some EU countries only (CH, GER, UK, F, UK, AT)
<table>
<thead>
<tr>
<th>Retailer</th>
<th>Country</th>
<th>Number of Organic Products</th>
<th>Organic Fish</th>
<th>Organic Trade marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edeka</td>
<td>Germany</td>
<td>1,000</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Aldi</td>
<td>Germany</td>
<td>80</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Coop</td>
<td>Switzerland</td>
<td>1,600</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Tesco</td>
<td>United Kingdom</td>
<td>1,200</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Albert Heijn (Royal Ahold)</td>
<td>The Netherlands</td>
<td>176</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Esselunga</td>
<td>Italy</td>
<td>250</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>ICA</td>
<td>Sweden</td>
<td>100</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
Edeka bans endangered fish species

*In cooperation with WorldWildLife Funds*
Sustainable Wild Fisheries:

Marine Stewardship Council
Organic fish offered by Aldi in Germany

BIO Garnelen

je 250-g-Packung 3.59
<table>
<thead>
<tr>
<th>Organic Fish</th>
<th>Origin</th>
<th>% organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmon (fresh)</td>
<td>Ireland</td>
<td>23.3%</td>
</tr>
<tr>
<td>Salmon (smoked)</td>
<td>Ireland</td>
<td>14.6%</td>
</tr>
<tr>
<td>Prawns/shrimps</td>
<td>Vietnam/Ecuador</td>
<td>58.3%</td>
</tr>
<tr>
<td>Trout (fresh)</td>
<td>Switzerland</td>
<td>23.3%</td>
</tr>
<tr>
<td>Trout (smoked)</td>
<td>Switzerland</td>
<td>16.0%</td>
</tr>
<tr>
<td>Pangasius (catfish)</td>
<td>Vietnam</td>
<td>11.9%</td>
</tr>
<tr>
<td>Gilthead seabream</td>
<td>France</td>
<td>27.9%</td>
</tr>
<tr>
<td>European seabass</td>
<td>France</td>
<td>42.6%</td>
</tr>
</tbody>
</table>
Selection of private

Wechsler /Erftland Forelle

Laschinger

Ristic AG

- Wildlachs MSC
- Bio-Lachs
- Bio-Lachs
- Bio-Garnelen
- Bio-Forelle
- Bio-Tilapia
- Bio-Pangasius
- MSC-Produkte
Distribution of organic seafood

Organic Speciality Retail Trade

- largest range of products
- organic supermarkets with fresh fish
- important in France, Germany, Austria

<table>
<thead>
<tr>
<th>Product</th>
<th>Price (EUR/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organic retail shop</td>
</tr>
<tr>
<td>Salmon (smoked)</td>
<td>57.00 (n=6)</td>
</tr>
<tr>
<td>Trout</td>
<td>56.60 (n=3)</td>
</tr>
<tr>
<td>Shrimp (pre-boiled/deep-frozen)</td>
<td>27.86 (n=8)</td>
</tr>
</tbody>
</table>

* No discount stores included; on the spot store check in Munich 2009
BioFish Forum: Markets

Market for organic fish in Europe
Private labels organic aquaculture products

- Ristic AG
- Ökofrost GmbH
- Deutsche See GmbH
- Isana Naturfeinkost GmbH
- Dunn’s of Dublin
- Schekerka Handelsagentur
- Bio-Bavaria
- Bio-Fischmanufaktur
- Beeck
- Moin
Private labels organic aquaculture products (canned fish)
BioFish Forum: Markets

**Increase of organic fish production**
- Increased demand
- More experiences in organic aquafarming, increased research and solutions for technical bottlenecks
- Higher margin expectation for organic fish

**Introduction of national regulatory systems**
- Europe Union in place since 1st of January 2009
- United States and Canada within the next 2 years
- Hong Kong in 2010.

**Global Market Drivers**
**Organic Seafood**

**Trade dynamic**
- Expansion of product ranges (fresh, frozen, fish species)
- New markets emerging (in Europe, United States elsewhere etc.)
- Regulatory systems create confidence in markets

**Consumer side**
- Growth of sustainable consumption (LOHAS)
- Organic fish the only sustainable choice for farmed seafood
- Fish consumption increasing (perceived healthier as meat)
Thank you very much!

Udo Censkowsky