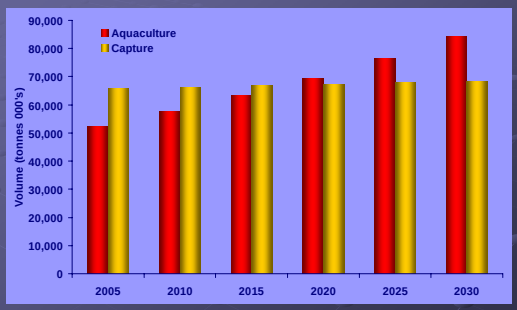
Aquaculture Looking to the Future

Original presentation delivered by Sue Utting, Seafish 4 April 2005

Aquaculture to help sustain seafood supply

- FAO data - aquaculture will help to fill gap between worldwide demand for fish and supply from wild catch
- Aquaculture development MUST be market led - volume and 'niche' markets

Global Production to 2030



Aquaculture species in UK

- Shellfish
  - Mussels, oysters, clams, King scallops & queenies
    - * new species – other clam species, abalone, lobsters
    - * other invertebrates - sea urchins
- Finfish
  - Salmon, halibut, turbot, cod (marine species)
    - * potential new species - haddock, Dover sole, sea bass
  - Trout (freshwater species)

Shellfish culture

Mussel culture

- Sector of the industry showing very good potential. Economy of scale with:
  - Purpose-built vessels for seabed culture
  - Development of offshore rope culture systems
- UK at forefront of technology development
- Need to add value rather than export to reap benefits

Diversification into new species

Lobsters

- technology available
- restocking programmes with juvenile lobsters
- cultivation to market size in commercial production units uneconomic at present

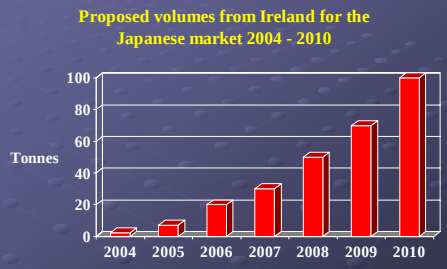
Sea urchins

- technology available – production in in cages with finfish or in specialised systems

Abalone

- technology available – production in land-based systems for areas outside south west England

Abalone



Current market price: US$40/kg

Source: BIM

Finfish culture

Present technology

Offshore technology

Offshore technology

Must be able to withstand extremes of weather

Offshore support

Land-based recirculation systems

More costly:
- set up costs

More control over:
- temperature
- water quality
- disease
- feed

In Mediterranean, some sea bass culture moving away from sea cages to recirculation systems

Land-based recirculation systems

Initiatives to promote good environmental practice

- Creation of wetland areas
  - alternative method to dispose of wastes
- Polyculture with e.g. shellfish/seaweeds
  - alternative method to dispose of nutrients & wastes
- Novel materials
  - e.g. use of flax as filtration medium
    - biodegradable
    - link to agriculture sector

Outlook

- On global scale, supply & variety of seafood from aquaculture will increase
  - closing the life cycle is the key to culture of new species, i.e. move from ranching/fattening to production from domesticated broodstocks
  - e.g. cod in Europe, blue fin tuna in Japan
- Aquaculture development will need to remain in tune with environmental sustainability
- Increased automation of production systems
  - essential where manpower is costly
  - skilled workforce

More novel developments & ideas

- Linking to other sectors in the coastal sector
  - de-commissioned oil platforms as production units
  - seed mussels collected from off wind turbines
- Sea-going production units
  - purpose built hatchery & production units

A framework for the future