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**Cod farming in Nordic countries**

**Reykjavik - 2008**

**On-growing of farmed cod in Norway – an overview**

**Per Gunnar Kvenseth – Villa Organic**

10/4/2008 2

The second slide is a title page with a light blue and green background featuring faint, stylized fish and organic shapes. It contains the Villa Organic logo at the top left, followed by the main title "Cod farming in Nordic countries" and subtitle "Reykjavik - 2008" in bold green text. Below that is the topic "On-growing of farmed cod in Norway – an overview" in bold blue text, and the author "Per Gunnar Kvenseth – Villa Organic" in bold blue text. At the bottom left is the date "10/4/2008" and at the bottom right is the page number "2".

I have been working with cod loooong !

- Hands on since 1979
- Had a dream as a 12 year old boy – mass production of ling !!!! One female ling can have 30 mill eggs !
- Massproduction of codfry - 1983 – 70.000 cod fry from the Hyltro pond



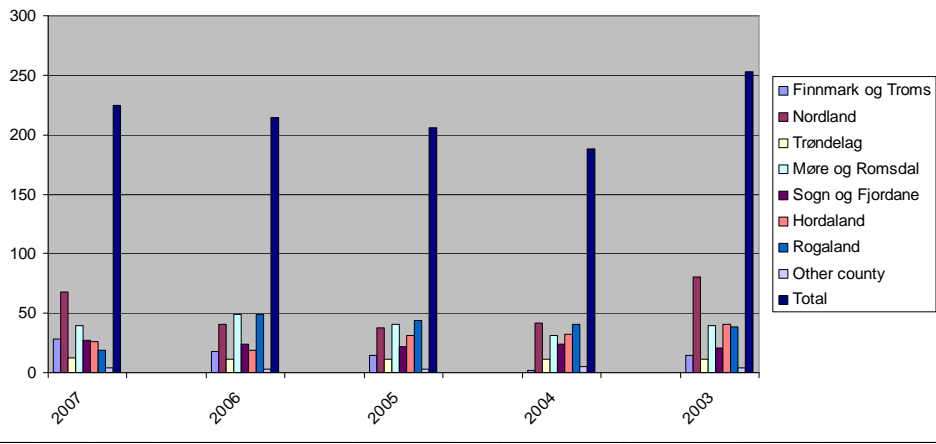
Whats so facinating and difficult about cod farming ?

- Salmon
  - Eggdiameter 6,2 mm
  - Larval length 22 mm
  - Wet weight 140 mg
- Cod
  - 1,3 mm
  - 5 mm
  - 1 mg

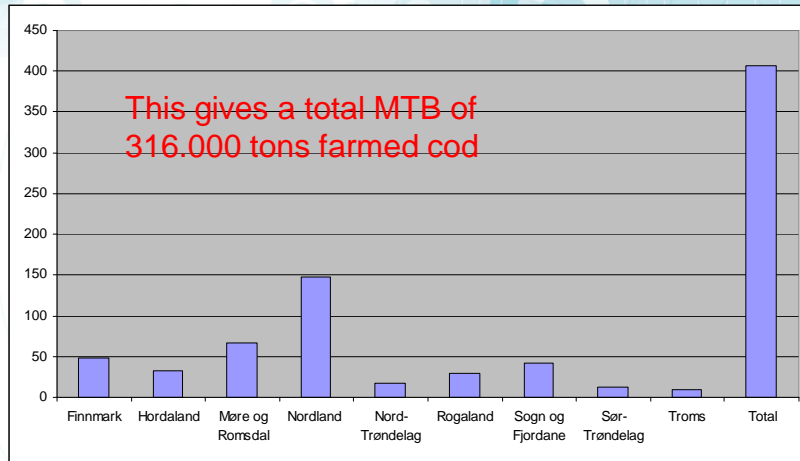
**Size matters !**



Number of licences - codfarming - Norway - Fiskeridir.



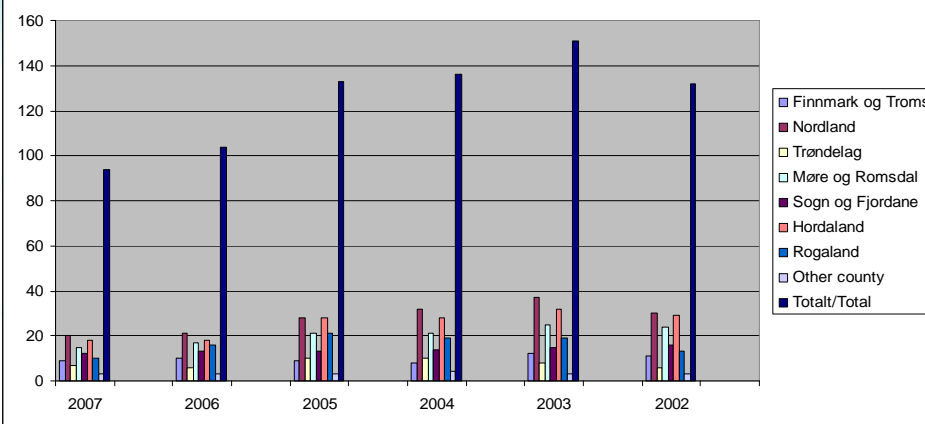
**Cod farming licences Norway – 20.Sept. 2008 – Fiskeridir.**



10/4/2008

7

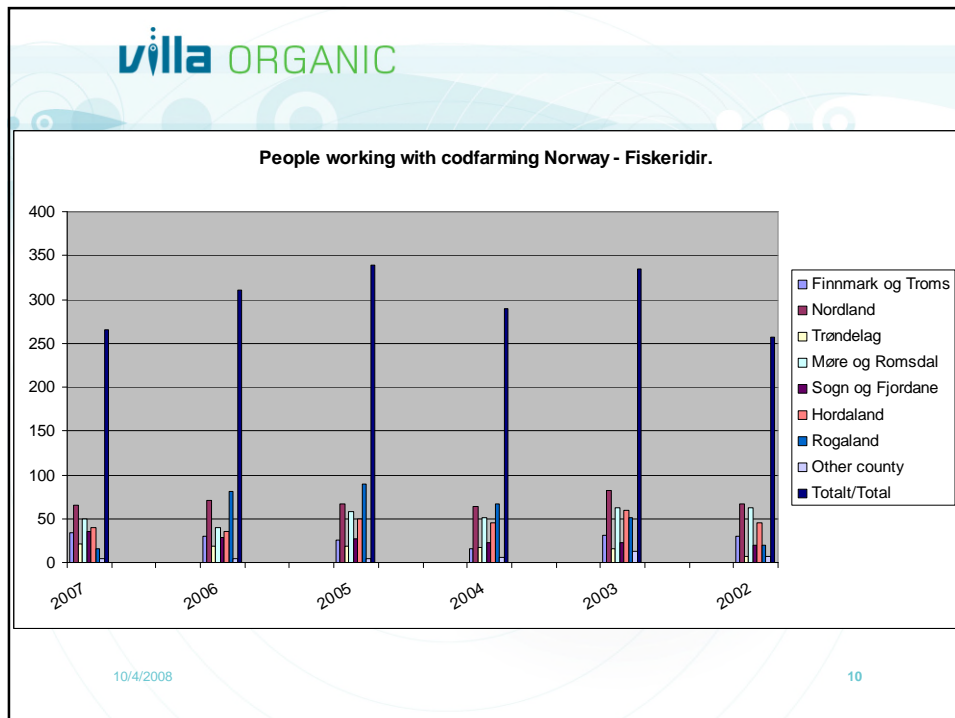
**Number of companies with cod productions in Norway - Fiskeridir.**



10/4/2008

8

Norwegian authorities wants (some ?)  
 Coastal areas with NO cod farming  
 +  
 The same reporting as for farmig  
 Salmonids (monthly reports, lice,  
 plans to be approved, etc.)



**Quality of cod fry !**

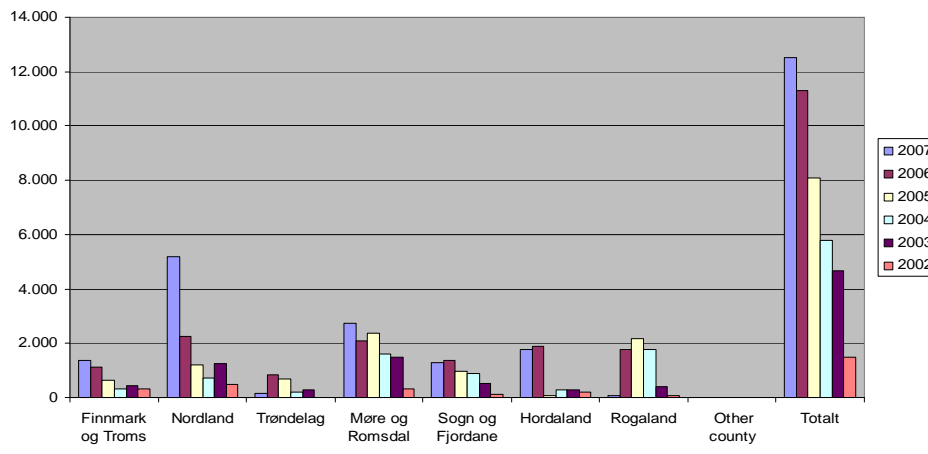


- The focus on quality have increased rapidly !
- The quality have increased rapidly
- Still work to be done !!
- Undercover of codfry this fall !!
- Dont use fry with "low" quality for ongrowing (commersially !)

10/4/2008

11

**Input of cod fingerlings in Norway, by county - numbers in 1.000 - Fiskeridir.**



10/4/2008

12

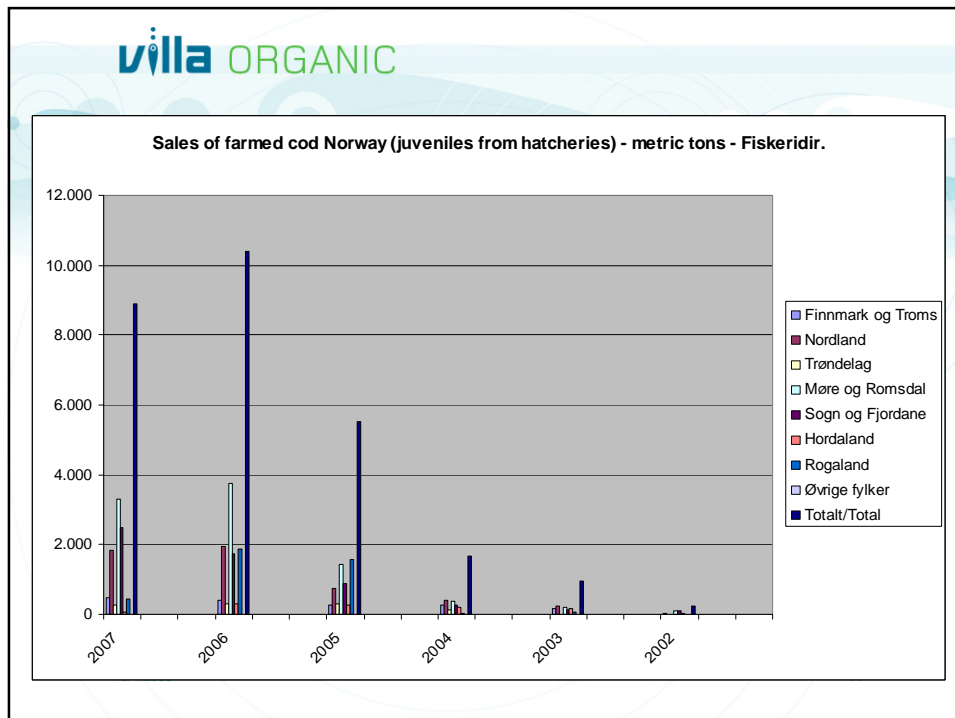
# Cod farming in Norway

12 mill codfry set out in seapens in 2007

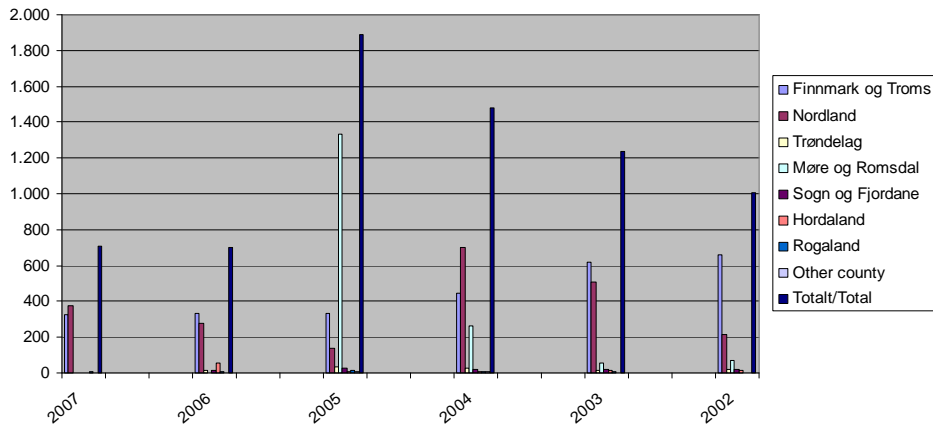
Can give;

45.000 tons round weight slaughtered in 2009 ?

Ref. Fish Farming Expert



Sales of ranched cod (from wild catch) - Norway - metric tons - Fiskeridir.



10/4/2008

15

## This year !

Europe will import about 1 mill metric tons of farmed whitefish (ref. Nordea)

## Future !

60.000 - 90.000 metric tons of farmed cod from Norway by 2015 (ref. Kontali Analyse)

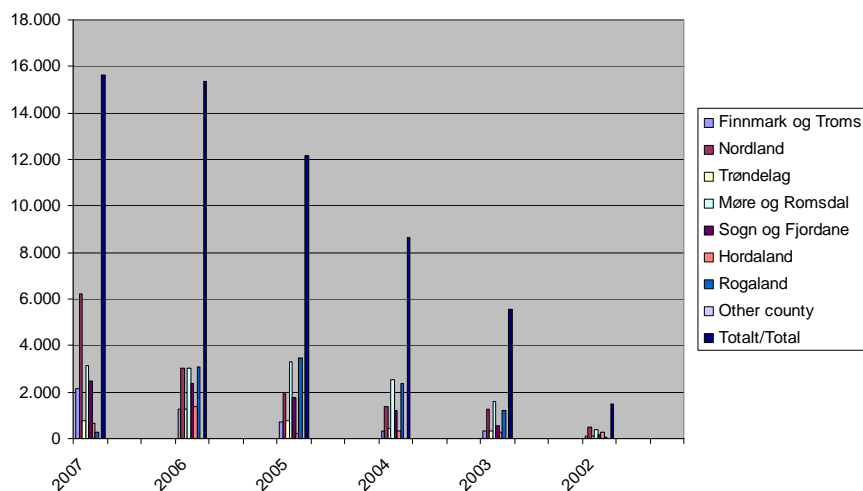
# World whitefish!

Vietnam produced 800 000 tons of pangasius in 2007 !!

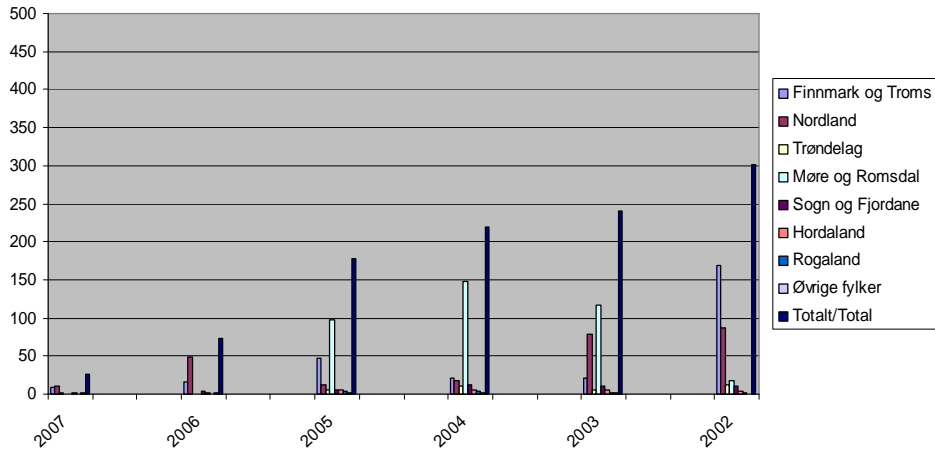
More that 1 mill tons this year !

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Live stock of cod - Norway by 31. December - produced juveniles - numbers in 1.000, Fiskeridir.



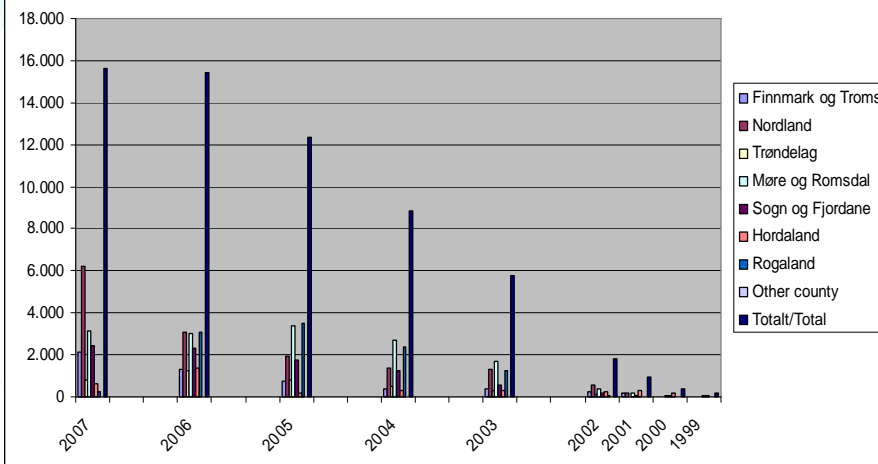
Live stock of cod - wild caught fish - by December 31. Norway - numbers in 1.000



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19

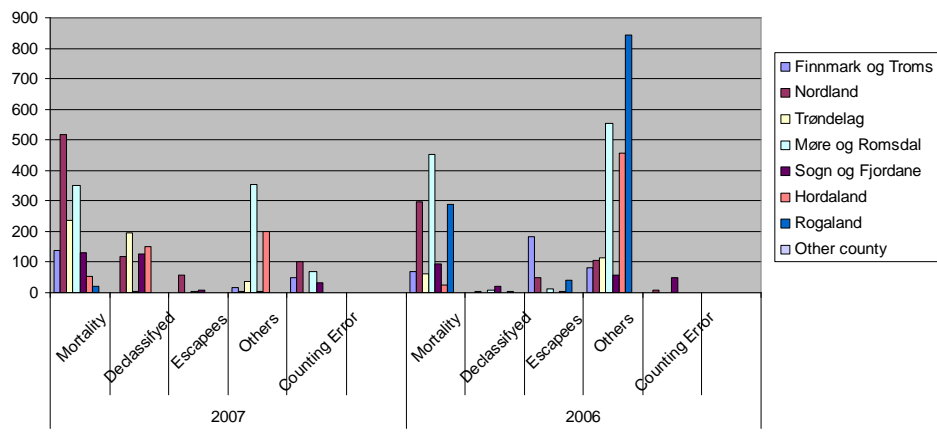
Live stock of cod - 31.December - total - Norway - numbers in 1.000







Causes of losses in production of cod - Norway - numbers in 1.000 - Fiskeridir.





**Escapiées in 2008 – report by first 6 month  
= 83.000  
Fiskeridir.**



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### **Challenges**

- Early maturation
- The use of additional light – "artificial" light
- Growth – to reach harvesting size before maturation (1. or 2.time ?)
- Production cost (Jørgen Borthen in session 10)
- Competitiveness of cod farming (Lars Liabø session 10)

10/4/2008

26

### More challenges

- Diseases
  - Hege Hellberg gave an excellent overview yesterday (Session 3)
  - Vibriosis – 19 sites in 2007
  - Francisellosis – 8 sites in 2007, from Rogaland to Nordland
  - Nodavirus – VNN – 6 sites in 2007
  - Parasites

10/4/2008

27



