Current and emerging diseases
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Fresh water farming

“Caring for health and welfare of fish:
A critical success factor for aquaculture”

Brussels,

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Fresh water farming

- Extensive policultures
  - Carp, bighead, grass carp ...

- Intensive monoculture
  - Carp
  - Eel
  - Sturgeon
  - Catfish
  - Tilapia
Diseases

- Non infectious
  - Technology deficiencies
    - Overcrowding
    - Feeding (quality, amount, size, timing ...)
    - Water quality
    - Poisonings (NH$_3$, O$_3$, H$_2$O$_2$ ...)

- Infectious
Non infectious

- deficiency of vitamin C
- Malformations and hemorrhages (anemia)
Fat embolism
Non infectious

- Poisonings
  - NH$_3$: high pH level
  - O$_3$: dezinfecive
  - H$_2$S
Infectious

- Viral (KHV, SVC, ...)
- Bacterial
- Fungal (EUS)
- Parasitic
Viral

- KHV (CyHV-3)
- SVC
- Carp pox (CyHV-1)
- Sheatfish herpes virus
- Sturgeon herpes virus
- Grass carp and crucian carp viruses (China)
Bacterial

- Dropsy (septicemia)
- Erythrodermatitis
- Streptococcus spp.
- Flavobacteria
- Mycobacteria
Fungal

- **Gill rot** (*Brynychomyces sanguinis* and *B. demigrans*)
- *Saprolegnia* and *Achilia* spp.
- *Aphanomyces invadans* - Epizootic ulcerative syndrome (*EUS*),
Parasitic

- Myxosporean and Coccidia
- Still the white spot!
  - Needs a treatment (sheatfish!)
- Eel (Anguilla japonica) angullicolosis
Dactylogyrus spp.
Glochidiosis – in extensive culture
Winter skin disease of the common carp

- Undescribed protozoon
- Lesions below 2 °C
Conclusions

- Control of fish import
  - both pet and farmed
- Control of the farms by veterinarians
  - With the help of...
    - ... agricultural ingeneers
    - ... biologists
    - ... toxicologists