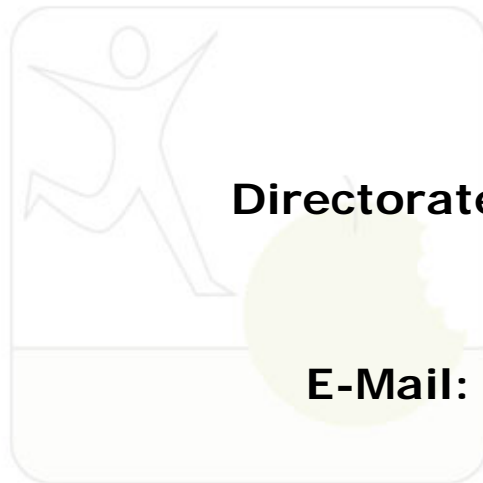


# Aspects of Biosecurity



**Albrecht WERNER**  
**European Commission**  
**Directorate Health and Consumer Protection**  
**Health Threat Unit C3**  
**L-2557 Luxembourg**  
**E-Mail: [albrecht.werner@ec.europa.eu](mailto:albrecht.werner@ec.europa.eu)**



# Definitions “Biosecurity”

- The exclusion, eradication and effective management of pests and unwanted organisms into New Zealand. [www.pce.govt.nz/reports/pce\\_reports\\_glossary.shtml](http://www.pce.govt.nz/reports/pce_reports_glossary.shtml)
- Security process of preventing biological contamination on the farm. [www.dqacenter.org/university/def.htm](http://www.dqacenter.org/university/def.htm)
- Biosecurity” refers to the policies and measures taken for protecting a nation’s food supply and agricultural resources from both accidental contamination and deliberate attacks of bioterrorism. [www.ourohio.org/neigh/htmlne/laf\\_f\\_abc.php](http://www.ourohio.org/neigh/htmlne/laf_f_abc.php)
- A biosecurity guarantee attempts to ensure that ecologies sustaining either people or animals are maintained. This may include natural habitats as well as shelter and productive enterprise (especially agriculture) and deals with threats such as biological warfare or epidemics. <http://en.wikipedia.org/wiki/Biosecurity>
- Protection of all natural resources from biological invasion and threats. [www.hear.org/galapagos/invasives/glossary.htm](http://www.hear.org/galapagos/invasives/glossary.htm)
- Precautions taken to minimize the risk of introducing an infectious agent into a population. [www.fao.org/DOCREP/005/AC802E/ac802e01.htm](http://www.fao.org/DOCREP/005/AC802E/ac802e01.htm)

# Public Health and Biosecurity

## ■ Focus on

### ■ Control of spread

- Isolation units

- Containment (Biosafety)

### ■ Access control to bio-hazardous material

- Laboratories

# Biosecurity and Biosafety

## ■ Biosecurity

### ■ Organisational measures

- Access control
- Documentation
- “Good Laboratory Practice” principles
- Training, Training, Training
  - Assure everybody is aware of the potential threat of the material processed

## ■ Biosafety

### ■ Physical measures

- Containment
  - Negative pressure
  - HEPA-filtration of in- and outgoing air
  - Sealed walls

### ■ Inactivation and sterilization devices

# Basic Biosecurity Issues

## ■ Prevent

- Entry into laboratories
- Removal or misuse of microbiological agents or hazardous agents
- Removal or misuse of sensitive materials
  - Equipment
  - Data
- Disruption of laboratories
  - Terrorist incident, natural disaster, destructive events

# Challenging Tasks in the area of Biosecurity

## ■ Inventories of pathogens

### ■ Clinical samples

- Obligation to store for years
- Containing unknown pathogens by nature

### ■ Research Laboratories

- “ Creating new hazards ”
- Updating lists of pathogens
  - Fluctuation of personnel (e.g. PHD students)
- Sometimes not aware of “potential” pathogenicity of infectious agents

# Components of a Biosecurity Programme

- **Institutional Policies**
  - Policies set the frame of allowed activities
  - Specific laboratories may develop policies and procedures adjusted to agents present and the research agenda of the institution
- **Security Plan**
  - Personnel security & access control
  - Information security
  - Material control & accountability
  - Vulnerability assessment
  - Emergency response plans
- **Training**
- **Assessment of “dual use” issues**
- **Evaluation**

# Biosecurity vs. freedom of information

- **Information Security vs. Freedom of Information**
  - Conflict between the need to control the flow of information and the freedom to access information
  - What types of information should be released into the Public Domain
    - What information should be kept secure
- **Who decides?**

# Conclusion

- **Biosecurity in a Public Health setting is the sum of all measures taken to minimize the risk or to avoid:**
  - **Introduction of a pathogen into the general population, no matter**
    - **deliberately released or**
    - **naturally occurring**
  - **Is linked to organizational measures**
  - **Should be established by accepted rules and guidelines**
  - **Has to be addressed in an interdisciplinary manner**