













and state and mile health mentility

Dr. habil. Anna Salek Microbiologist

GERMANY, 2006



Microorganisms surround us and affect our lives in many ways. They play key roles in processing whole biotechnology and affect the quality of our food, water, control some pests (biocontrol) and cause diseases.



Microbiological infections are back at the top of the public and political media with the thread of bioterrorism. How we should successfully contain and combat the threat and consequences of bioterrorist attack?

To meet this emerging threat, we have to address four important challenges:



1st line of:

Fully aware defence against bioterrorism weapons will be existing medical and public health response as well as efficient food chain surveillance system (i.e. HACCP).

2nd line:

Provide prophylaxis, medical care and infection control on massive scale + in good network of onward diagnostic laboratory by enhancing capability to detect infections and conduct

epidemiologic investigations.



3rd line: **Accelerating microbiological research** and development of new drugs and vaccines as well as of rapid & safety diagnostics with application of recent attainment in science. 4th line:



Adequate investment to prepare Anti-Bioterrorism initiative.

















































BIOHAZARD

eninnella pneumophila



























Smallpox - Silent weapons !!!









Bioterrorism in the World









1 Key microbiological needs for Public Health Care

Providing frontline co-operation between specialists from epidemiological services and national reference laboratories about:



Investigations and surveillance of diseases from foodborne pathogens, i.e. gastroenteritis, protozoa, Viruses, prions, like PrPres (BSE);

An application of *Predictive Microbiology* and HACCP System to identify in food any indicators and source of

zoonotic as well as biohazards organisms;

A protection of food production and supply disruption by **bioterrorism**.



2 Key microbiological needs for Public Health Care

Application of the HACCP (hazard analysis critical control point) System according to microbiological criteria for safety food:

Choice of indicators for food microbial quality & safety, like: Coliforms, Enterococci, Coliphages, Fecal microorganisms;



An application of *Predictive Microbiology* for microbial modelling.



4 Key microbiological needs for Public Health Care Development and transfer of onward, safety and rapid methods for competent microbiological diagnostic, considering genetic research, integration of microbial databases and microbial biodiversity. 5 Key microbiological needs for Public **Health Care Competently organised structure of routine** microbiological laboratory (GLP) for connections with industry (GMP) and public services (collaborative working for health).





International **Bio - Consulting**

.

Elaborated by: Dr. habil. Anna Salek

