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Risk-based surveillance and safety of imports

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Outline

- Concepts of risk-based surveillance
- Example of risk-based residue testing in imported food

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Concepts of risk-based surveillance

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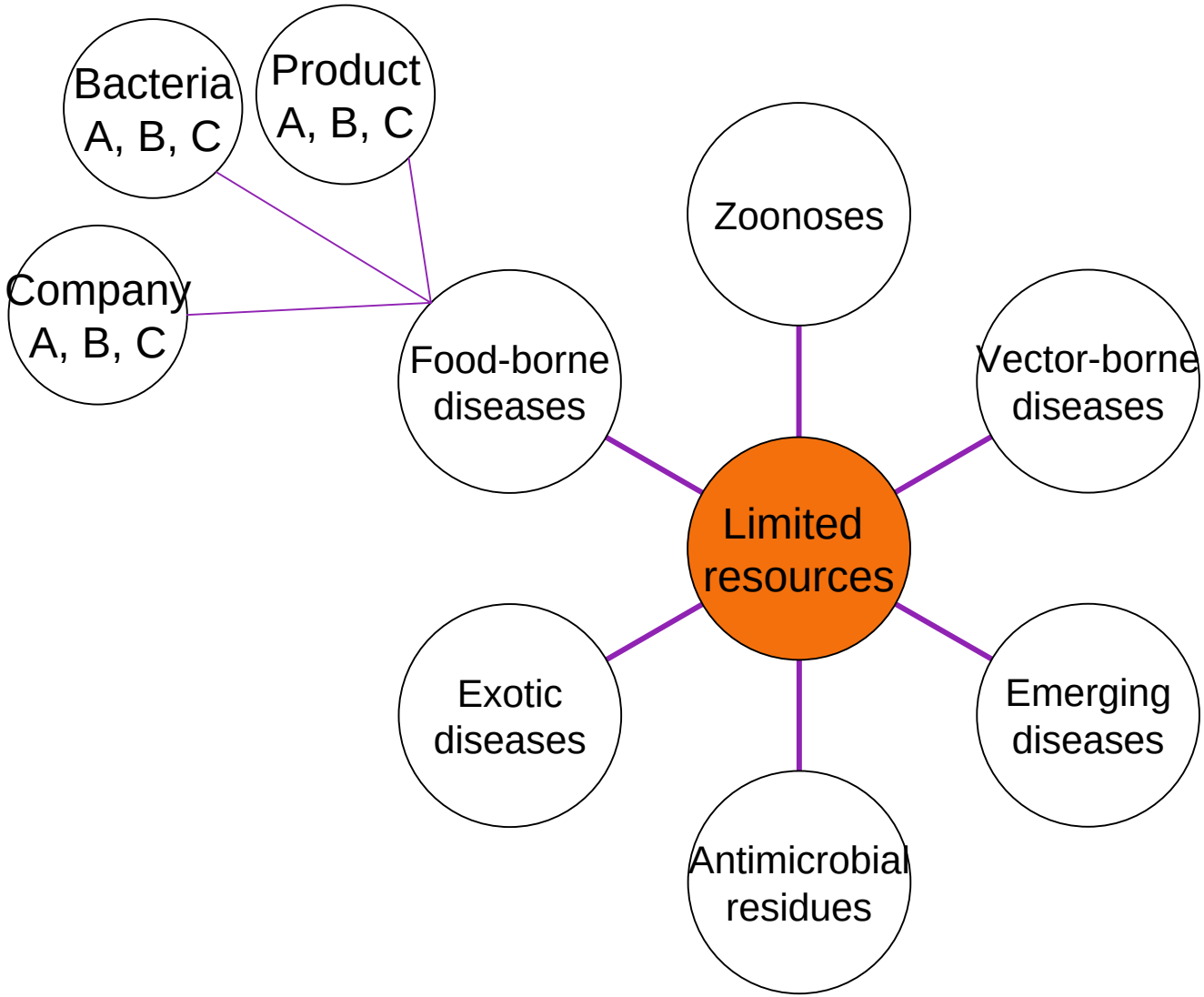
The dilemma



Competing issues – limited resources (manpower & money)

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Information-cost ratio

- Need for evidence-based decision making ⬆
- Need for documented evidence ⬆

- But: Resources ⬇

- Optimal use of resources needed

$$\frac{\text{Evidence}}{\text{Cost}} \uparrow$$

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Risk-based designs

1. Preferential testing/inspection for hazards that have more serious consequences
   - Human health
   - Animal health
2. Preferential testing/inspection in sub-populations (strata) that have higher risk of being infected

→ Risk-based surveillance (RBS)

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Objectives of risk-based approaches

- to identify surveillance/inspection needs to protect animal health and the health of consumers
- to set priorities
- to allocate resources effectively and efficiently

- Evaluation of risk-based systems shall prove that the efficacy of the risk-based approach is equal or higher than that of traditional approach; however, the efficiency (cost-benefit) shall be higher in risk-based systems.

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Definition: *Risk-based inspection*

„An inspection programme in the design of which risk assessment methods have been applied together with traditional design approaches in order to assure appropriate and cost-effective risk management„

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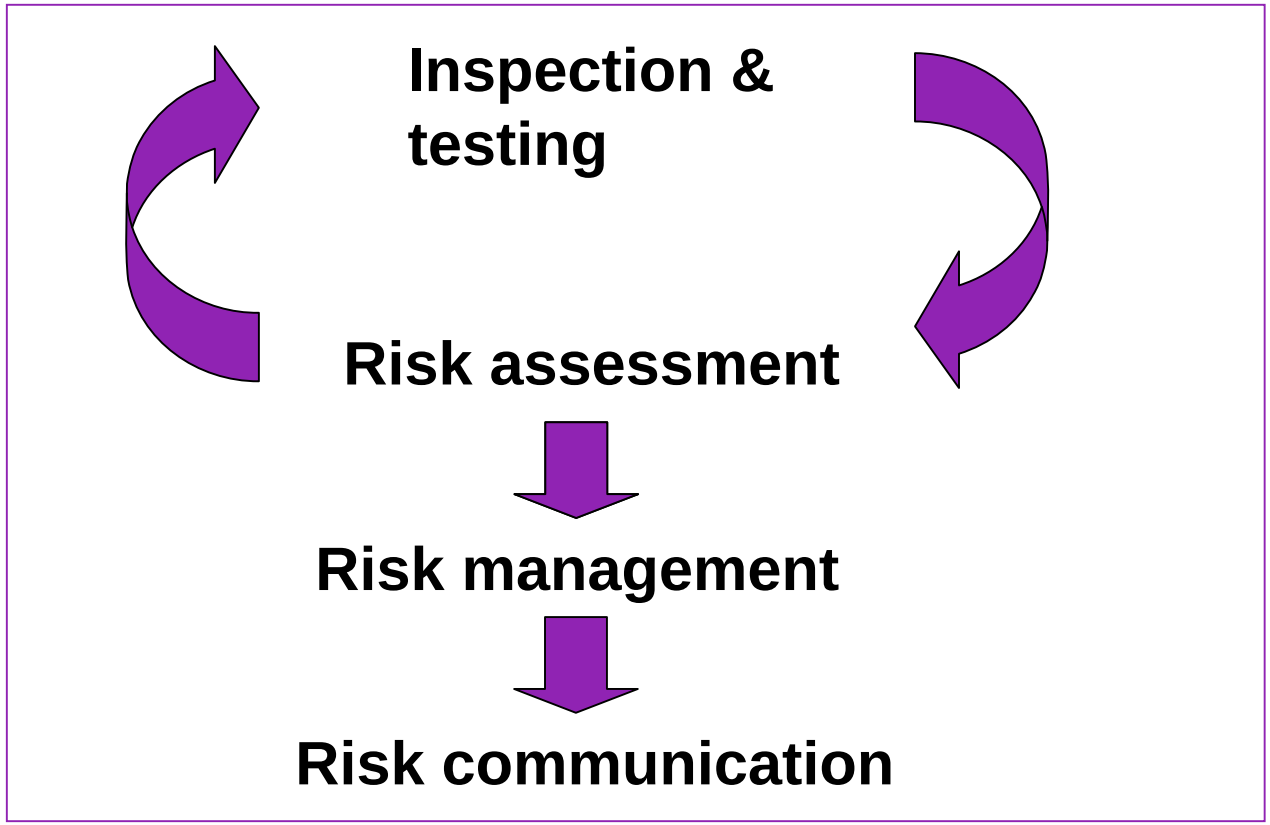
Risk-based inspection cycle



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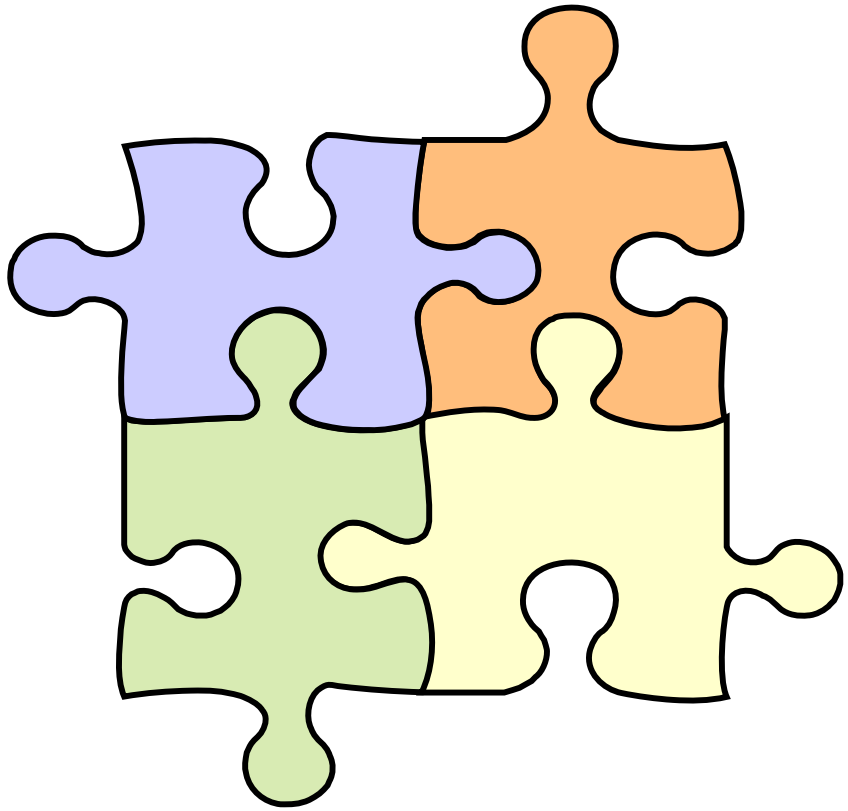
Real-world risk management

- Evidence originates from several sources
- Validity of risk-based testing depends on assumptions made and on availability of relevant data
- Risk-based testing to be combined with random testing



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Risk-based testing for residues in imported meat in Switzerland

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Classification of imported batches

- High number of origin-product-substance combinations
- Semi-quantitative scoring approach
  - Score 0-2 for each of the 6 factors (max. 12)
  - Score 10-12: relative risk = high

Input parameters

- Country of origin
  Legislation
  Residue monitoring
- Amount of imported product and total consumption
- Substance (illegal in CH, tolerance level, MRL)
- Accumulation of substance in matrix
- Results of previous import and retail sampling

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Country of origin

Legislation	Score
Equivalent legislation *(import in EU)*	0
Legislation not equivalent	1
Legislation unknown or no legislation	2
Examples:	
China	2
Italy	0

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Health consequences of substance

Substance	Score
Legal use in CH, no tolerance level	0
Legal use, tolerance level defined	1
Illegal, or MRL defined	2
Examples:	
Trimethoprim	1
Chloramphenicol	2

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Substance in the product

Occurrence in matrix	Score
Not expected	0
Expected	1
Accumulated	2
Examples:	
Nitrofurane in meat	1
Hg in „fatty fish“	2

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Previous analysis results

Switzerland	Score
No positive results (MRL respectively tolerance level)	0
< 1% of samples positive	1
> 1% of samples positive or detection of illegal substances	2
Example: poultry - chloramphenicol	
China: n=144; 10 positive; 6 > MRL	2
France: n=75, 0 positive: 0 > MRL	0

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Monitoring in country of origin

Reports	Score
No positive results	0
< 1% of samples positive	1
> 1% of samples positive or no results available	2

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Consumer exposure

Relation import (country of origin) to total consumption (CH)	Score
Small (less than 1%)	0
Medium (less than 10%)	1
Large (more than 10%)	2
Example: Meat of frogs (consumption 2002: 131 t)	
Import from Turkey 8 t	1
Import from Indonesia 122 t	2

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BVET
OVF
UFV

Risikoanalyse Grenzkontrollen 2002

Risikoanalyse | Faktoren

Produktegruppe	Fleisch von Geflügel und Kaninchen
Produkt	Fleisch von Hausgeflügel
Zusatzcode	Ohne
Land	China
Substanz	Chloramphenicol

Risikoanalyse < Ansicht aktualisieren

Charakterisierung Gefahrenursache	2.0	verbotene Substanz
Freisetzung Land	2.0	
Freisetzung Produkt	2.0	
Exposition	1.0	

Vorwissen KL	2.0	
Vorwissen GTU	2.0	
Vorwissen Berechnung KL+GTU	2.0	Vorwissen KL und GTU
Vorwissen Herkunftsland	2.0	Kein Vorwissen Herkunftsland

Gesamtnote / Risiko: 11.0 **Risiko gross**

Drucken

Risiko pro Produktegruppe

Datenbank schliessen

Output

Risk categories used to develop the sampling protocol

- Sampling at border inspection point
  - All products with high risk (score 10-12)
  - Random sample of products with medium risk (score 8-9)
- Sampling at retail
  - Random sample of products regardless of risk category

Programme currently under revision due to changes in import processes

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Conclusions and open issues

- Risk-based inspection provides a structured approach to set priorities
- Risk-based inspection thus addresses an urgent need and is of significant potential in practical application
- Methodological issues
  - Qualitative risk assessment methods need further development
  - Exchange on currently available approaches and practical experience needed

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