Cost and value of AIT along the agrifood chain

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• Why?
• Elements for a framework for cost benefit analysis.
• Conclusions.
• Key issue for a multi purpose system.
• Decide between different variants.
• Analyze the impact of technical changes.
• Decide how to finance the system.
• Asses the acceptability.
• …
ELEMENTS FOR A FRAMEWORK
Identification and traceability

- **Animal identification**: provides a standardized, shared, lifetime, unique and readable number on a mark applied to the animal.

- **Animal traceability**: aptitude to find the history, the use and the localization of an animal by the mean of a number (animal number, number of the holding of origin...)
Main steps

1. Context analysis.
2. System modeling and analysis.
3. Stakeholders analysis.
5. Cost benefit evaluation.
Context analysis

- Animal movements pattern.
- Animals, renewal, animal movements...
- Holdings and keepers per type.
- Service providers.
- Marketing system.
- …
STAKEHOLDERS IDENTIFICATION
In a multipurpose system, cost and benefit should be evaluated at stakeholder level. Persons or organizations with an interest in the system:

- Actors
- Users / service.
- Country or industry
Actors

- Farmers.
- Trade.
- Abattoirs.
- ...

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Users

- Farmers.
- Abattoirs.
- Vet authorities.
- Performance recording.
- ...
Other stakeholders

- Country.
- Industry.
- ...

COST EVALUATION
Costs components

• Direct costs per main business process:
  – Holding and keeper identification.
  – Animal identification
  – ....

• Indirect costs.
  – Technical support.
  – Data management.

• Total cost = Indirect cost + direct cost
Register and update
Depends of the number of holding.
Major components:
- labor cost of the keepers
- administrative labor cost.

Independent of species and from the size of the holding.
Animal identification

Depends on number of identified animals and keepers.

Main components:
• labor cost of keeper,
• cost of the mark,
• cost of retagging,
• administrative cost,
• …

Major variations:
• technology
• rate of retagging
Animal traceability

• Depends on number of movements.
• Major components:
  – Registration: keeper’s labor.
  – Notification:
    • keeper’s labor cost
    • cost of communication
    • administrative cost.
  – Invalid data correction
  – Additional cost for paper passport.
Technical support

- Permanent improvement of the procedures,
- Follow up the actors,
- Information, training and support
- Data administration (fix the errors…)
- Advice
- …
Data management

- Amortization of software investments.
- Equipment investments
- Software licenses,
- Software maintenance,
- Hosting
- Communication
- ...

Different types

- Country and/or industry.
- Users.
Country’s or industry ability to:

- quickly and successfully contain
  - food safety incident
  - disease outbreak
- access to key export markets.
- ...

Lack of methodology to quantify...
For farmers depends on:
• Farm management system
• Number of automatic devices
• Importance of service providers
• …

For service provider level, share animal identification avoids:
• from implementing specific systems for each type of activity
• allows to operate shared databases

For trade and abattoirs the benefits depends on the marketing system.

…
Animal traceability

This issue is not well documented !…

An efficient database would allow:

• a better react in case of problems
• better control of animal
• quality product program along the supply chain
• solve legal problems dealing with the liability about the food safety.

*But benefits are often potential :*

• Data reliability.
• Delay for updating the databases.
• Technical and legal availability of the data
• Ability to deliver traceability other types of data
• …
Conclusions

- Key issue for a multipurpose system.
- Should be undertaken
  - for each system.
  - at stakeholder level
- No need to be very sophisticated to get key issue.
- System modeling.
- Indirect and direct cost.
- Labor cost.
- Cost / benefit much more complicated:
  - For country or industry => specific methodology
  - For users => possible.
Thank you for your attention....