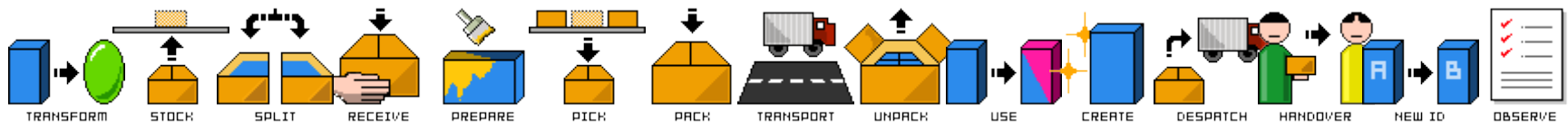




**Food Information management
and advanced traceability**

Who is FoodReg?

- A specialised provider of food traceability knowledge and solutions
- Inventors of the “tracepoint approach” to food traceability
- Accepted experts on EU level
 - Part of FoodTrace, laying the foundations to electronic food traceability
 - Enterprise System Provider for TRACE IP (EU’s largest traceability project)
 - Leader of [BrightAnimal](#), on Precision Livestock Farming
 - Creators of www.foodtraceability.eu
- Innovative solutions for smallholder inclusion





- FoodReg is also a food information and traceability platform
 - built on and with open standards; co-created TraceCore (see www.foodtraceability.eu)
 - allows to define freely the depth, width and precision of the traceability implementation
 - supports both internal and external traceability
 - any globally unique coding scheme(s) – even in parallel
 - includes full support for analogue traceability
 - integrated with standard compliance management
 - Food safety
 - Good practices
 - Sustainability standards
 - supports extensions, e.g. for GHG measurements





Costs and benefits of chain food information management

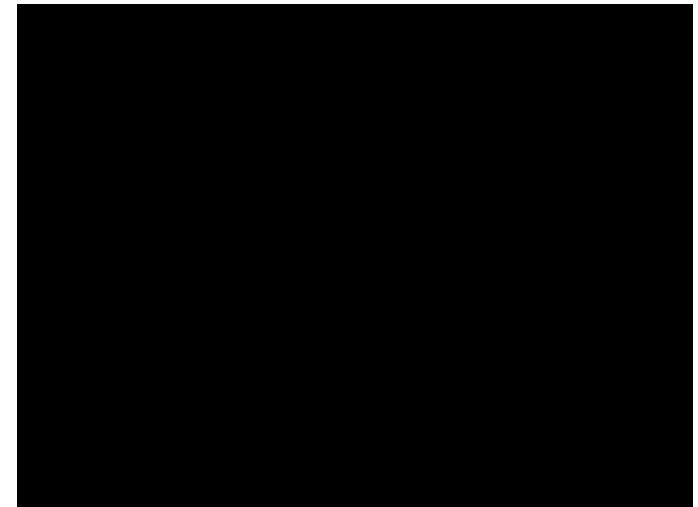
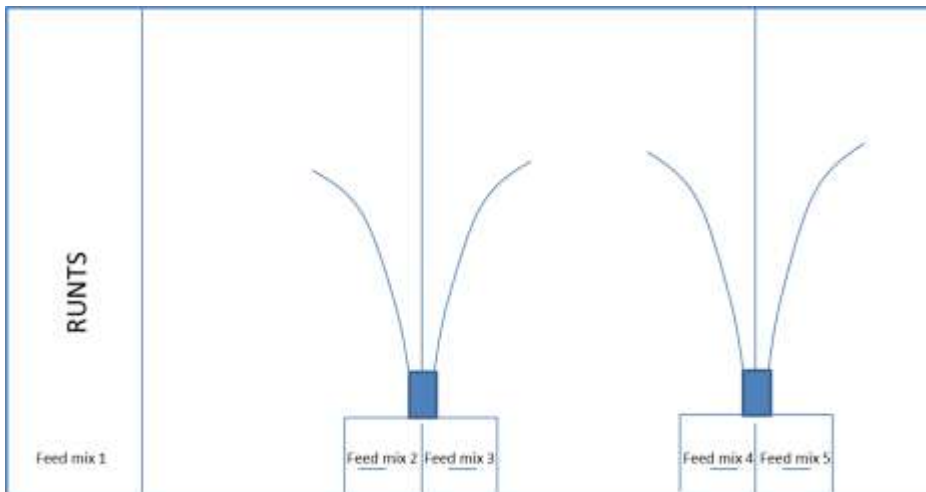
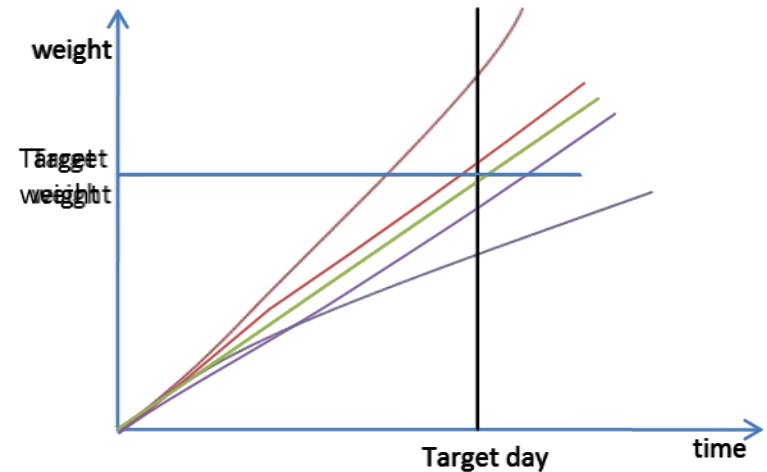
Why traceability?



- Traceability is about the ability to recreate the history of a food item or an animal – it's about continuous management
- Traceability is about *knowing your food business* and sharing that information when convenient or required
- In livestock farming, much of what is required is already being done
 - Breeding records
 - Purchase and sales orders
 - Stable books
- What is missing is employing this to the full benefit of the supply chain

What you get out of continuous management

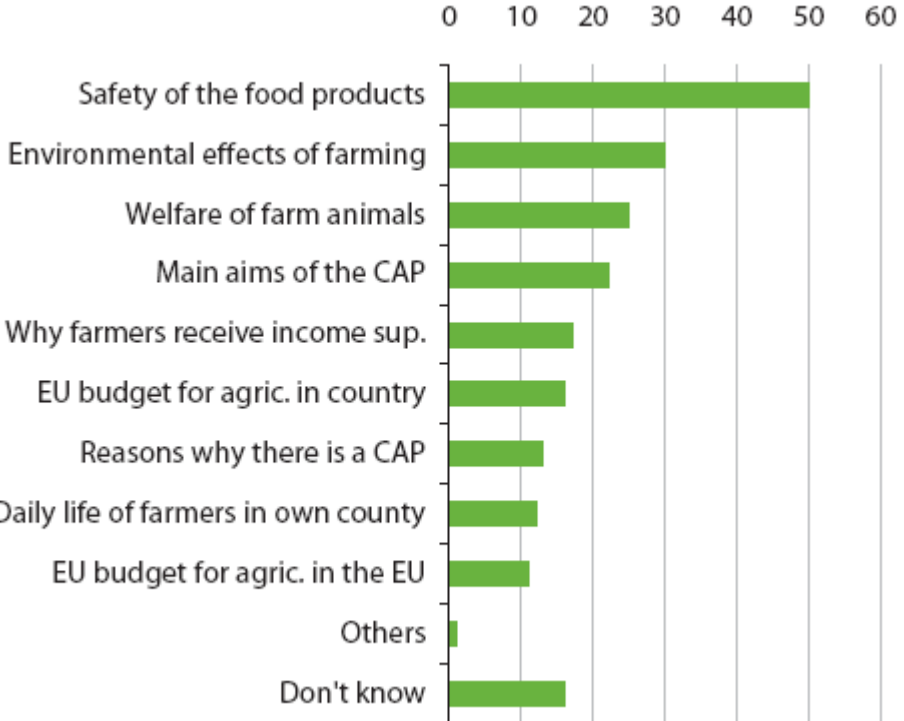
- Greg Ludvigsen's Target Hill: a clever combination of liquid feed, feed groups and growth adapted feed
- Osborne scales used as "sorting device"
- Main achievements:
 - Increased growth rate
 - Non-diverging growth curves and predictability



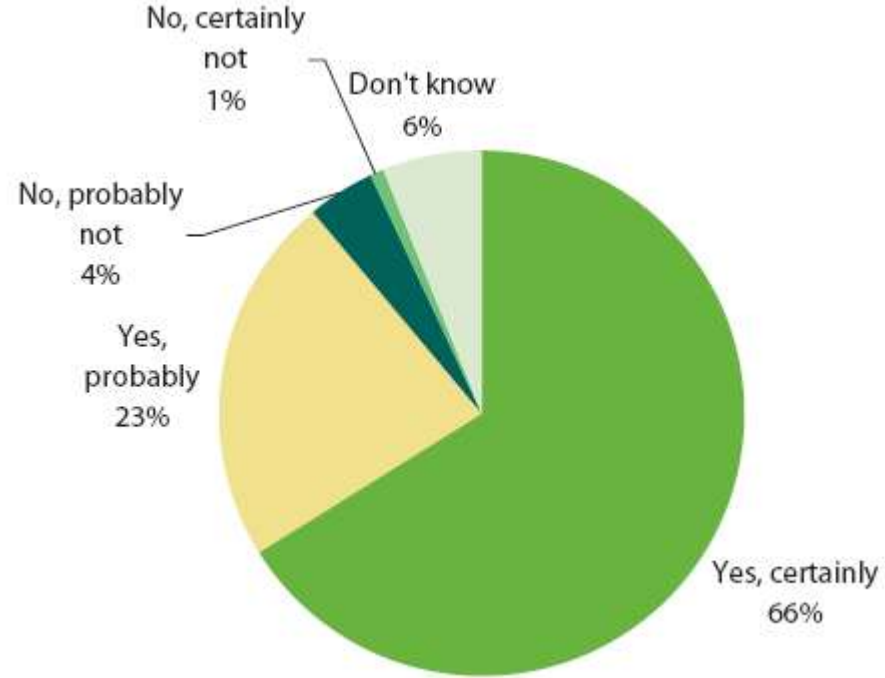


Connect consumers to producers

- 50% of European consumers want more information on food safety
- 90% believe that food from outside should be subjected to the same rules as in the EU



Agricultural topics on which the public would like more information, EU-25, 2006 (%) Source: EUROSTAT



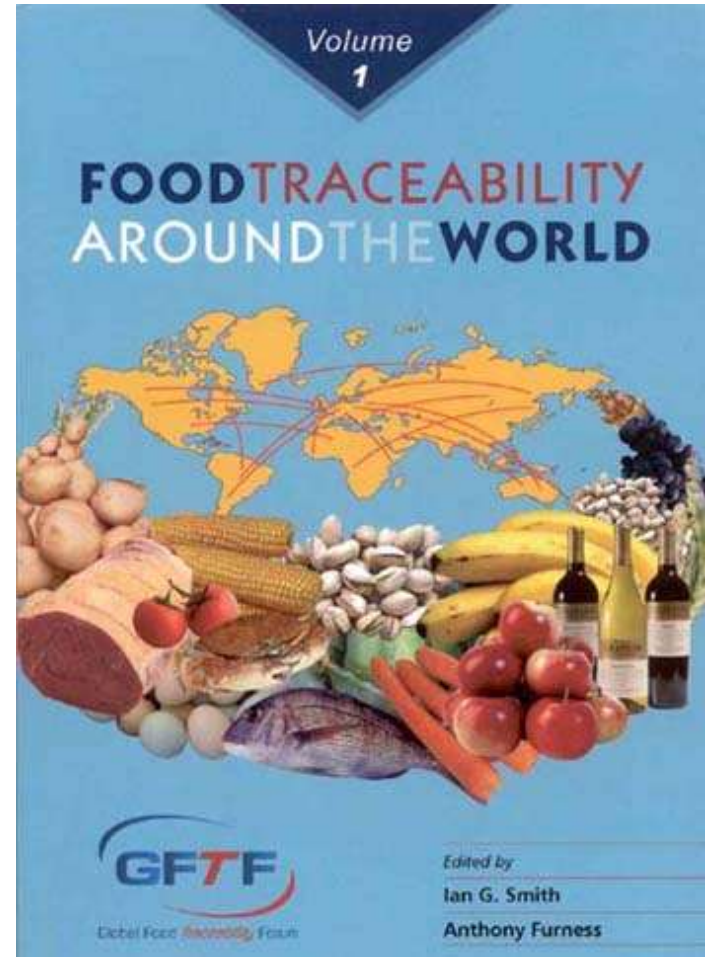
Do you believe that imported foods from outside the European Union should respect the same conditions of animal welfare/protection as those applied in the European Union, EU-25, 2006 (%) Source: EUROSTAT

4 out of 5 top subjects relate to PLF!

More information on traceability



- A number of countries have undertaken initiatives in *country wide* traceability systems
- Latest examples include
 - Malaysia
 - Norway
 - Vietnam
- Norway: based on voluntary industry standards
- Malaysia/Vietnam: based on government control



Ian G Smith and Anthony Furness, eds.
Vicarage Publications, 2008
ISBN 978-0-9553707-17



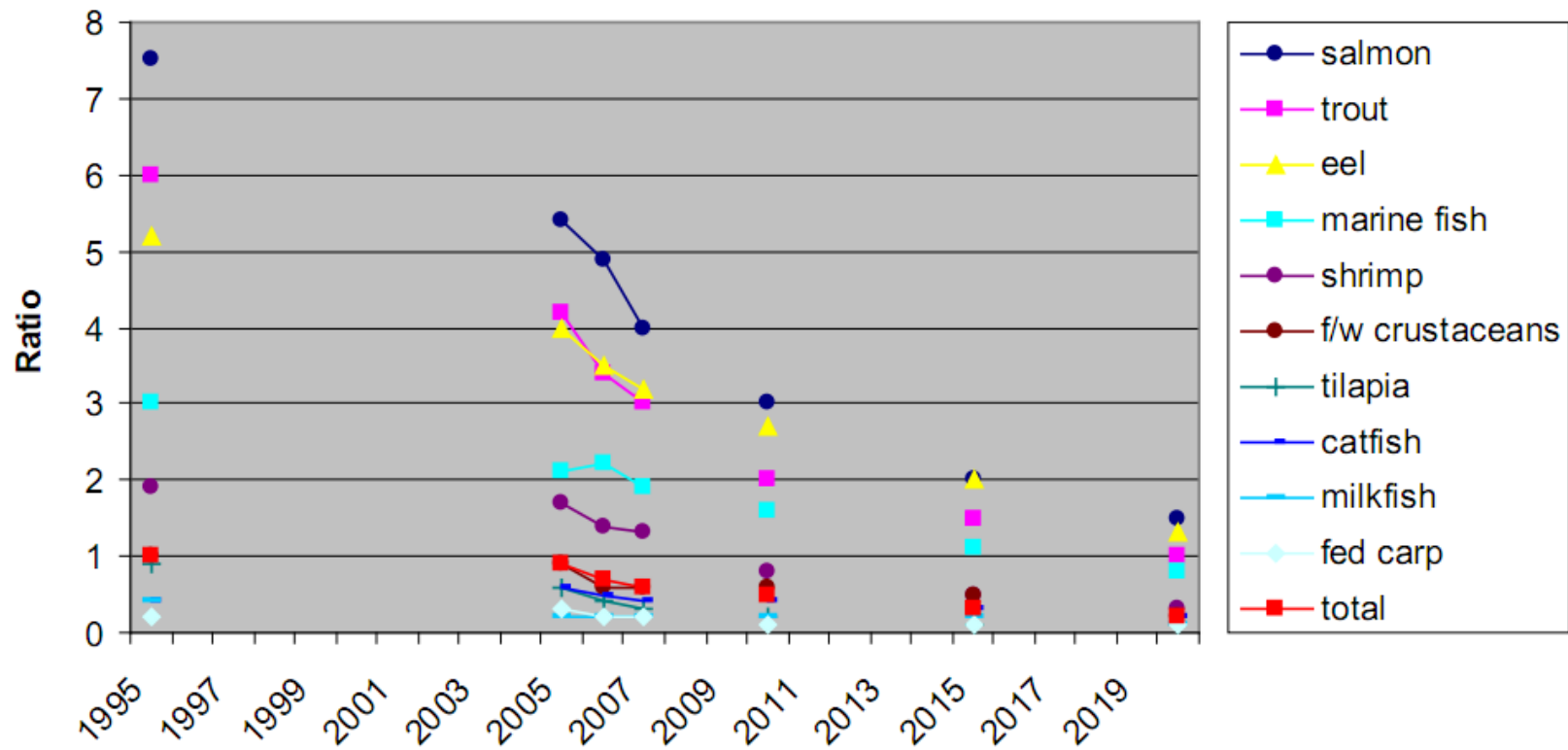
Chances

Why C-FIM is good for you

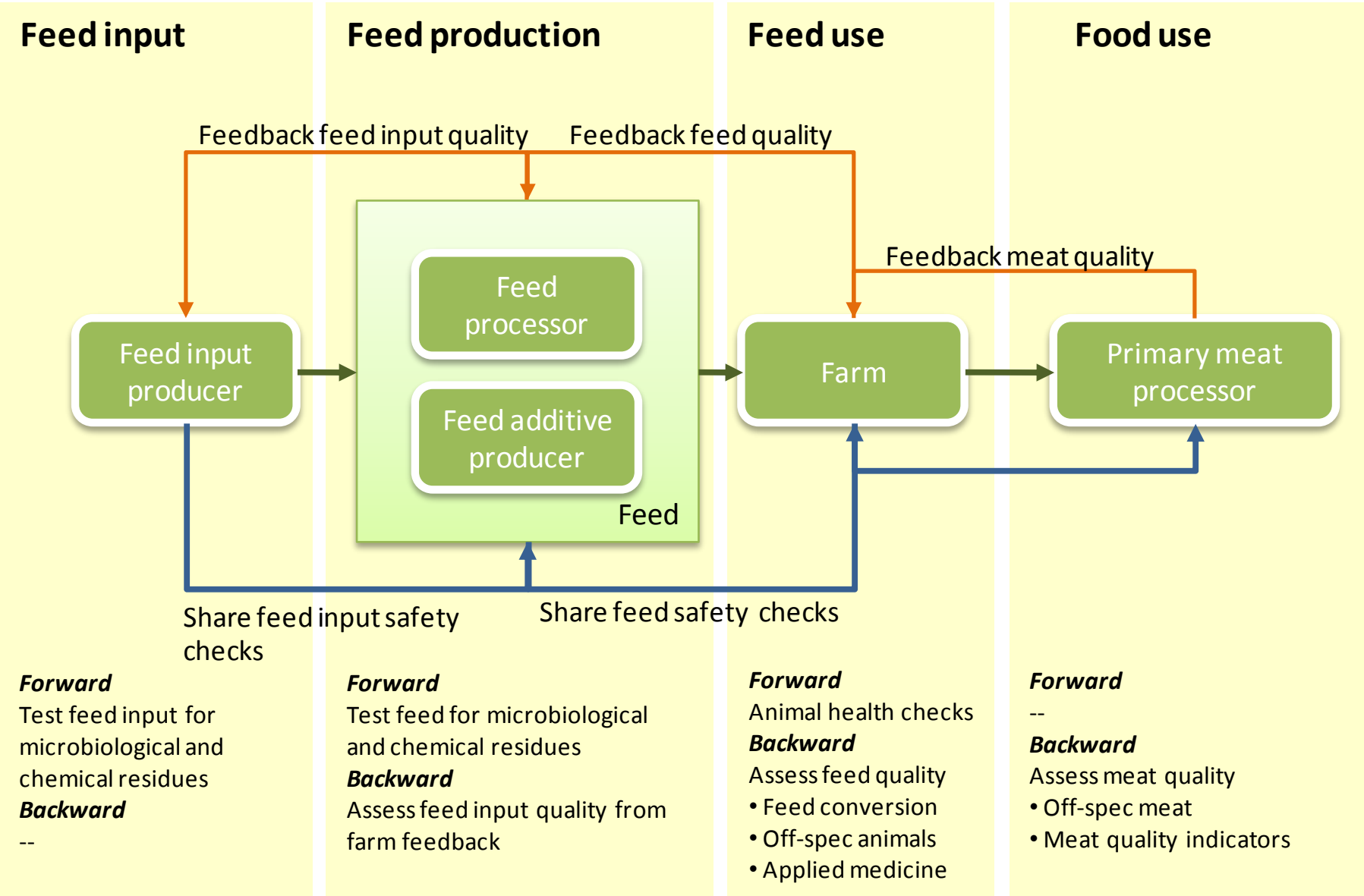


Business opportunities based on traceability

Fish in: Fish out ratios for major, fed aquaculture species
(data from Tacon and Metian, 2008)



Putting the money where the mouth is





Challenges



- The EU project TRACE attempted the standardisation of the exchange of traceable information
- Framework is called TraceFood – www.foodtraceability.eu
 - Contains abstract data exchange standard
 - Ontologies for water, honey, chicken and caught fish
- Came to realise that huge marketing effort needed to push standard
- Consequently, integrated TraceCore into EPCIS
 - But: EPCIS not fully specified
 - Mostly large players
 - No provisions for smallholders



Animal passports and their challenges



- The Australian PigPass consists of two elements
 - A three letter farm tattoo (in SA), applied to the animal's shoulder and identifying the origin of the finisher
 - A set paper of forms recording data called a “National Vendor Declaration” or NVD, which is part of the National Quality Assurance programme. The form is filled upon sale and records data about the seller, the transporter and the receiver. Forms are available on paper or electronically.

- Mandatory only in some states.



Is RFID the solution to all problems?



- Malaysia pushed for RFIDing all cattle
 - Cost of tags are still too high, especially for smaller operations
 - Immediate plans are to enforce RFID for cross state movements
 - RFID used for disease control and fraud control

- Unique identification very positive, but farmers are worried about cost
 - UHF tags at 10% cost of HF tags have not materialised



RFIDNews
Radio Frequency Identification Technology for Logistics, Tagging and EPC

Home News Events Library Vendors Archives Sign In

Malaysia begins RFID-enabled livestock tracking program

Monday, April 6, 2009 in News

Malaysia has become the first Asian nation to introduce a government-run livestock tracking program based on RFID technology. In the first phase of the program 80,000 head of cattle across the country will receive RFID ear tags.

The program, which is funded by the Veterinary Department of Malaysia's Ministry of Agriculture and Agro-based industries, was instituted to control disease outbreaks among livestock, helping to identify the source of the outbreak and animals which had been exposed to that source. Each tag will contain an identification code that provides access to data including the bearer's location, name of breeder, origin of the livestock and dates of movement.

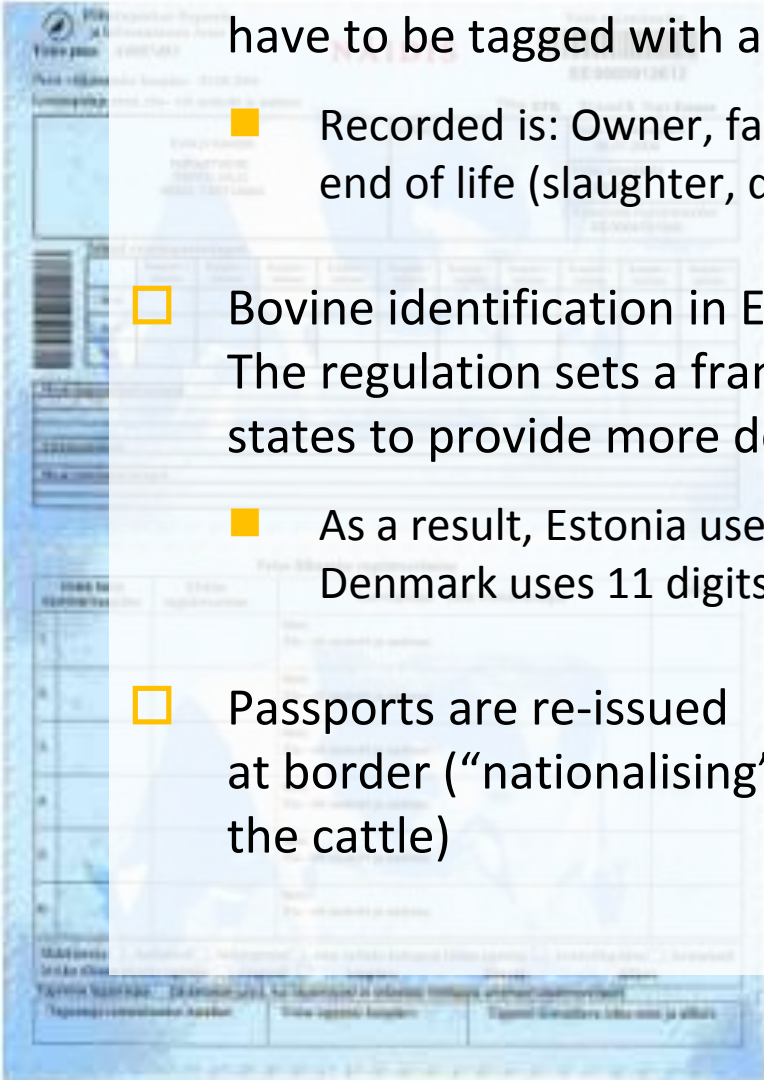
Government officials hope the tracking system will increase the competitiveness of Malaysia's livestock industry by helping it meet the import regulations of the United States and countries in Europe and the Middle East. The program will also help producers meet the dietary standards of the halal market.

If the initial phase of the program is successful, it will be expanded beyond

Animal passports and their challenges



- Estonian cattle passport: within approximately 10d of life, all cattle have to be tagged with a double plastic ear tag
 - Recorded is: Owner, farm, movements between farms, use, cattle type, end of life (slaughter, death etc)
- Bovine identification in Europe is regulated in regulation EC/911/2004. The regulation sets a framework for identification, but leaves member states to provide more detailed regulations
 - As a result, Estonia uses a 10-digit code as do Germany and France, Denmark uses 11 digits and the UK 12 digits.
- Passports are re-issued at border (“nationalising” the cattle)





- Currently 4 different variants:
 - State-owned full view (e.g. Malaysia, Vietnam, Indonesia),
 - State-owned on request only (US, in preparation)
 - Industry-owned (Norway, Denmark)
 - Private organisation as a service

- Value of transparency not generally recognised

- Perceived lack of access control, especially by tax authorities



red light: non-conformance
green light: conformance



Public sector



Private sector



GLOBALG.A.P.

BRITISH RETAIL CONSORTIUM

Certifications

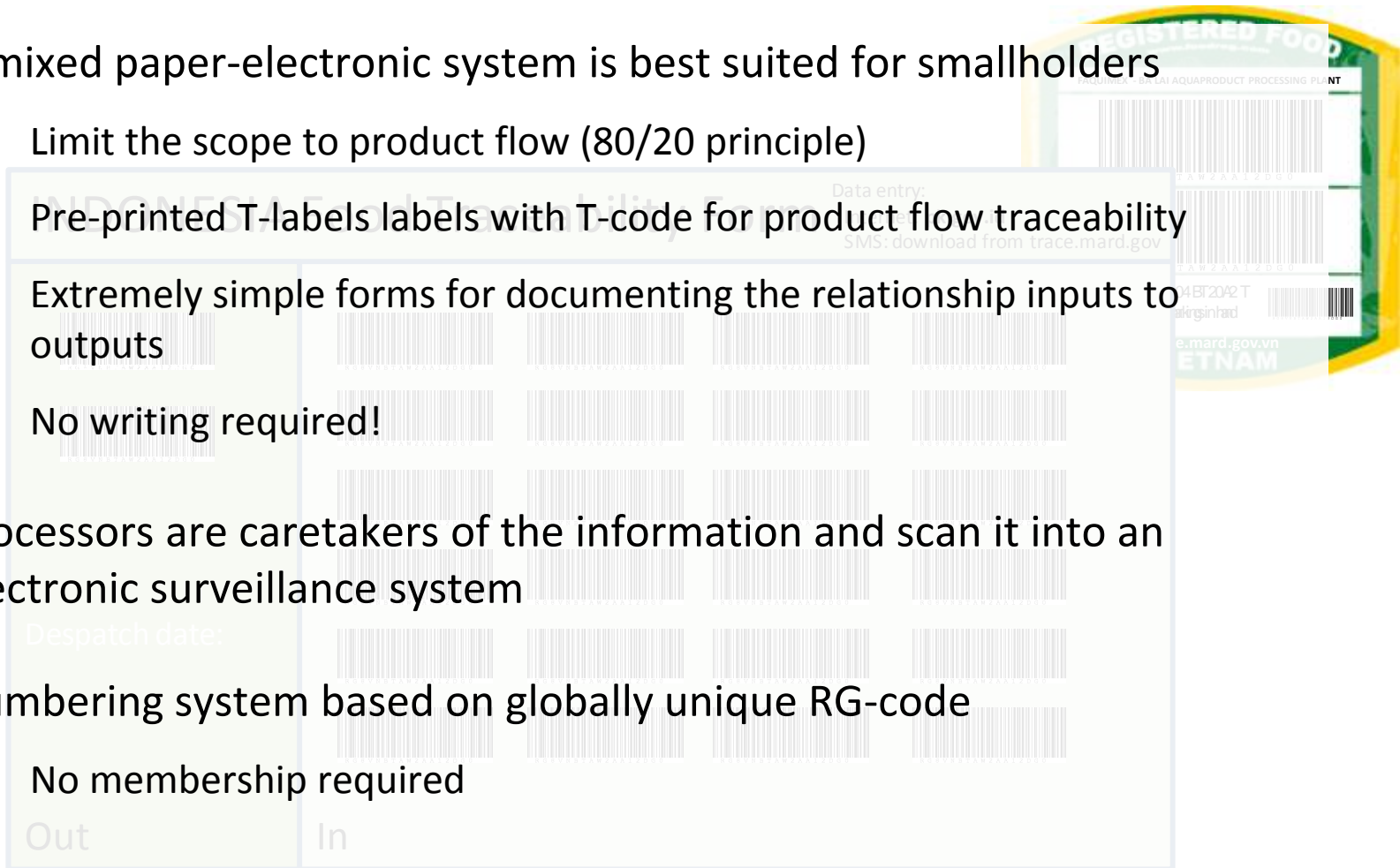


Smallholding operations

- ❑ Small and medium enterprises make up about 99% of the food business operations (FBOs)
- ❑ Smallholders generally not part of the traceability effort
 - Business relationships based on family or friendship, not on quality
 - Little understanding of the importance of data recording
 - Low technology penetration
- ❑ Uncontrolled mixing typical
- ❑ Typically not organised in associations, much less registered with GS1
- ❑ Electronic data capture not realistic



- A mixed paper-electronic system is best suited for smallholders
 - Limit the scope to product flow (80/20 principle)
 - Pre-printed T-labels labels with T-code for product flow traceability
 - Extremely simple forms for documenting the relationship inputs to outputs
 - No writing required!
- Processors are caretakers of the information and scan it into an electronic surveillance system
- Numbering system based on globally unique RG-code
 - No membership required
- System to be piloted in Indonesia in 2011





- Traceability and Chain Food Information Management is an essential part of all Precision Livestock Farming
- It can unlock a great optimisation potential within the livestock industry; the feed-animal-food chain needs to be studied in detail
- However, its use in livestock farming is still to be fully realised
- Three main challenges remain: standardisation, ownership and integration of smallholding
- Some solutions have been proposed and are being implemented



Thank you for your attention!

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FoodReg 