Traceability in poultry production
Traceability in poultry production

- Poultry presented for slaughter for human food purposes
- and poultry products

shall be identified in a manner that enables the tracing of

(A) each animal to any premises or other location where the animal was held at any time before slaughter; and

(B) each poultry product from slaughter through processing and distribution to the ultimate consumer.
Traceability in poultry production

- It is not an identification of each poultry or egg with an individual number but a batch number (premises: building or the entire holding).

- Depending on the production system and organisation of the various activities, each bird or egg may be identified individually or not.
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Reproductive poultry

Hatching (Hatchery)

Laying hens

Packing center

Poultry for meat production

Laying hens

Poultry Holding

Slaughter plant

Processing plant

Consumers

Different patterns:
- Traditional
- Industrial
- Specialised
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Reproductive poultry

- 1 male for 100 females
- Identification of reproductive poultry with a ring or wing tag
- Register entry and exit
- Production of fertilised eggs on lines
- Fertilised eggs sent to the hatchery
- Trolley identified by a label

Name of breeder
Identification number of the farm
Date of laying
Batch number
Line
Trolley number
Identification of reproductive poultry using a ring

The ring used for the identification of poultry is a numbered closed ring, made of plastic. On the ring the country (e.g. F for France), the diameter in mm, and an identification number is marked. The color is different for each year (blank in 2009; black in 2010). The ring is put on before the bird is 2 months old.

Different diameter of ring according to the breeds: between 16 mm and 24 mm with a maximum of 27 mm

How to put the ring in place
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Reproductive poultry

Identification of the reproductive poultry with a wing tag

The wing tag used for the identification of poultry can be a plastic or metallic tag.

The wing tag is put after the birth of the animal

Printing in INK JET for permanency and contrast to improve readability.

All tags are boiled in clean water before dispatch
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Reproductive poultry

For economy and accuracy of data retrieval in primary poultry breeding establishments. The pouch is securely fixed but can be re-opened to recover the eID glass transponder. Readable numbers can be printed on the other side of the wing tag. Pins are moulded from hard and sharp materials to minimise their diameter. The target zone on day old chicks is tiny!
Various pin sizes (lengths and diameters) are available for different species.
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Hatching

- Incubation period - hatching - delivery

- Label by tray or trolley in the incubator

Paper data on each incubator

- Incubation start date and time
- Date moved to hatchery
- Date of hatching
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Hatching

- **Paper data by hatch**
  - Hatching date
  - Number of eggs
  - Number of non-hatched eggs
  - Number of dead chicks
  - Number of live chicks

- **Delivery: label on trolley and delivery note**
  - Hatchery name
  - Batch number
  - Line
  - Delivery date
  - Number of chicks

- **Destination of the chicks: laying hens or poultry for meat production**

- **Register with entrance and exit**
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Laying hens

- One building = one batch
- Different systems: aviary, cage, alternatives
- Register with entrance and exit, and broken eggs and incorrect size
- Each egg is collected and can be marked at the farm level with food ink

- Label on trolley
  
  Name of breeder
  Identification number
  Laying date
  Batch number
  Number of eggs
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Packing center

- Register entrance and exit
- Selection of eggs that are suitable for consumers
- Identification on the shell of the egg with food ink:
  - breeder identification number
  - and rearing system number
  - + possible date of laying
  - 0 FR AAA 01
  - 1 code for the rearing system:
    - 0 for biological production,
    - 1 for outdoor access, 2 for aviary, 3 for cage

- Packaging label with bar code
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Identification of the egg: tools

Number of the producer + date of the day with food ink

Egg marker with engraved print
engraved print fixed on a dense foam cylinder

Egg markers with bellows (1 or 6 eggs together)
the system of bellows adapts to the shape of egg

Egg marker with plugs
they should be pressed on an inking plate before pressing them on eggs

Egg marker with jet of ink Speed-I-jet 798
It makes it possible to mark eggs WITHOUT CONTACT and very quickly
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Poultry for meat production

➢ After hatching

    => selection for the destination
    (laying hens or poultry for meat production)

➢ For specialised production
    identification by a tag at 1 day old

➢ Packaging label with bar code
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Poultry for meat production

- On farm: register entrance and exit (link with the document of arrival of a new band)

- Minimum: identification of the buildings/area of the farm in addition to the identification of the holding

- Possible identification with a wing tag (for labeled chickens before 6 weeks age)

- Transport to the slaughterhouse in baskets identified with labels (and possible bar code)
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Poultry for meat production

For specialized production of poultry (organic field, labeled poultry)
=> Identification with a ring

Various types of identification of chicken is variable:

An example: name of the producer

Another example: inscription Bio 01 9362
  Bio for Organic farming
  01 for certification by ECOCERT (they control the products for certification)
  9362 is the identifier at ECOCERT
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Special techniques

Biothermal FID chip (Digital Angel - 2005)

Can be used to support early warning, eg for avian influenza. Biothermal chips are approximately 10 mm long and are inserted in the bird's breast with a single inoculation.

RFID bird tags

RFID can be used for the management of poultry and birds of all types for tracking and scientific testing applications.

IBM, working with Matiq, has developed radio frequency identification (RFID) tracking technology to track and trace chickens from the farm to the supermarket shelf.
Rose Poultry A/S uses RFID readable by mobile phone technology
(Denmark’s largest manufacturer of chicken products for Danish and overseas customers – 290,000 chickens a day)

Rose Poultry engaged in a partnership with an aim to use novel technology to map consumer behaviour and consumer relationships by connecting the Nokia Mobil telephone technology and poultry products using RFID technology.

=> Survey in supermarkets in Denmark in April 2008

75% of respondents think that RFID labeling is a very good idea for traceability. Respondents were interested in several aspects, such as the chicken’s feed, information on testing for salmonella and other bacteria, and whether or not the production is organic.

65% would choose a product with RFID labeling over a product without

85% are willing to pay about DKK 2 extra for a product with RFID labeling.