Livestock identification is crucial for traceability and it is directly related to public health as well as to livestock conservation.

Meat, milk and all animal products’ supply chains are built on traceability: identification and traceability represent the baseline for every commercial operation, since animals spend their entire life in one place and are transferred to abattoirs or sold only when the time comes.

The former circumstances mostly happen far from the animals’ place of origin, thus the lack of information about the animal’s health may entail severe health risks. That’s why it is not possible to move animals without controls and even more important to be able to track animals throughout all their lives.

In this scenario new technologies may be useful to contain diseases spreading and to reduce the risk of contamination which represents a major threat to public health.

To enable and guarantee a virtuous process at the source while managing farms, it is highly recommended that each animal kept on a farm has a form of identification.

This allows farmers to keep track of their herd from birth to slaughter and have records of weight gain, milk production, pregnancies and
Livestock identification through ear tags and alternative methods

deliveries, medical treatments, past illnesses and so on.

**Advantages of Animal Identification for farmers.**

- Animal identification and record keeping help farmers to make the right decision on culling poorly performing animals in a herd.
- In the long run, an animal’s history can be tracked, good and bad performers can be identified and the information managed to ensure profit maximization.
- A farmer can further consolidate animal data output through the adoption of a specific farm management software.
- Effective systems need both tracking of animals down the food chain from producer to slaughter or to retail, and tracing, which is the ability to follow a meat product up the supply chain by means of the records which have been kept at each stage of the chain.
- Traceability, transparency and quality assurance are the bases for livestock product assurance and accreditation schemes. Traceability relies on efficient livestock identification and movement recording.
- Identification of farmed livestock is a legal requirement in many countries and the movements of cattle, sheep, goats and pigs must be recorded both on farm and centrally.

**Current Identification Methods**

**Ear Tags**

Across the globe, where animal identification is either compulsory or requested for specific activities, National Regulatory bodies govern over the selling and distribution of any form of identification, in order to keep at least track of the number of livestock registered under the name of the farm owner.
Livestock identification through ear tags and alternative methods

Upon purchase of tags a farmer may use an applicator to place these tags on the animals.
Prior to ear tagging, farmers should ensure that:

- Ear tag applicators are kept well and sharpened before use.
- Ear punches are kept clean and dipped in disinfectant between puncturing different animals.
- Ensure that the ear tag is not placed at the edge of the ear to avoid lost.

Non electronic ear tag

Mostly used form of ear tags on both commercial and communal farms. Easy to apply, different colour tags may be used to promptly determine the breeding herd or sire lines. Additional numbers/letters may be added to the tag numbers as preferred by the farmer.

Electronic ear tags

Commonly referred to as Electronic identification (EID) with RFID technology, they provide an opportunity to better manage individual performance of a herd. Commercial dairy farmers use EID quite often. They make the acquisition of data from the microchip embedded in tags faster and easier.

Next future frontiers

Animal Facial Recognition

Farm4trade is developing an animal identification system based on biometric recognition and made possible by Artificial Intelligence and
Livestock identification through ear tags and alternative methods

Computer Vision technologies thanks to Deep Learning algorithms.

This system will be put beside traditional identification systems and will help **reduce the risk of errors or frauds** when it comes to identify animals. It will also make data keeping and recording easier, faster, cheaper and safer.

Identification and recognition via **computer vision** is not completely faultless, but it has an impressive rate of accuracy close to 90% and it can greatly support traditional identification systems.

Ear tags, both electronic and not, may be lost, and malfunction or errors may occur. They also make it very difficult to control frauds, such as tag removal or replacement, while a facial recognition does not involve any of these risks.

Our new technology may become useful both combined with traditional identification methods and as a helpful tool to identify each animal during everyday tasks at the farm or during transportation too.

It will be possible to identify and access every animal information from your smartphone.

**Find out how**

**Conclusion**

Whatever identification method you choose, it can be used to monitor the overall performance of your entire herd. Wise managerial decisions can be made thereof, and allow easy decisions on which animals to keep or to slaughter.
Livestock identification through ear tags and alternative methods

References

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