Approved Livestock Identification Manufacturers Association (ALIDMA): Electronic identification (EID) tag reading study

Defra response

January 2013

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Introduction

In November 2012 the Approved Livestock Identification Manufacturers' Association (ALIDMA) published the results of a study into the readability of electronic identification (EID) ear tags for sheep on sale in England.

Defra welcomes this study which provides reassuring evidence of the quality of EID tags on sale. Six of the 13 recommendations made by ALIDMA on the back of the study are addressed wholly or in part to Defra. This document contains Defra's response.

Sheep identification

The rules for sheep identification and recording in England[1] are derived from EU law[2] and form part of the Government's disease control regime.

Since 11 January 2008 each sheep being identified and intended to be kept for more than 12 months has had to be double identified. Typically this will be with a pair of ear tags. The animal's unique individual ID number appears on both tags.

Since 31 December 2009 that individual identity number has had to be individually recorded by keepers, and (for a non-slaughter sheep being identified from that date) one of its two identifiers must be an electronic identifier.

Individual ID numbering does not apply to slaughter lambs which are 'batch' identified and recorded. They can be identified with a single tag displaying the flock mark only. Keepers can however use an electronic batch tag. That can help with 'mixed batch recording' when keepers (including markets, store finishers, and abattoirs) must record how many animals of each flock mark there are in a batch of slaughter lambs moving to/through their premises.

Apart from traceability and disease control their ability to comply with these rules is of significance for sheep farmers because inaccurate recording of sheep ID information in farm records can result in a reduction to a Single Payment Scheme claim if discovered at a cross compliance inspection.

Since the advent of sheep EID and individual recording the quality and efficacy of sheep EID tags has been the subject of much speculation. All sectors of industry are therefore keen that where electronic tags have to be scanned and recorded read rates as close as possible to or at 100% are achieved.

Approval of electronic ear tags for sheep

Defra is responsible for approving ear tags before they can be marketed for use as official identifiers for sheep for supply in England and on behalf of Scottish and Welsh devolved administrations for supply in Scotland and Wales. That function is delivered by Defra's Rural Payments Agency.

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[1] The Sheep and Goats (Records, Identification and Movement) (England) Order 2009

[2] EC Council Regulation 21/2004, as amended.

The approval process includes the testing of the electronic components of the identifiers to ensure they comply with international standards relating to code structure and minimum reading distances.

In addition given the challenging geographic, climatic and management conditions in Great Britain electronic tags must undergo additional robustness and endurance tests to ensure that transponders function in all conditions.

All ear tags also undergo testing of their physical properties to ensure they comply with a Publicly Available Specification (PAS 66:2009) developed with the British Standards Institution (BSI).

The study

The study carried out for ALIDMA by ADAS UK Ltd, had three elements:

- A baseline read of newly purchased EID tags to establish whether they complied with the legal requirements at the point of sale;

- An evaluation of EID tags retrieved from finished lambs passing through abattoirs during spring 2012; and

- An evaluation of EID tags in ewe lambs, shearling ewes and/or store lambs on farms.

Defra contributed a small amount of funding toward the testing of the electronic components of the ear tags at the European Commission's Joint Research Centre.

The study shows that EID tag readability is good. High read rates are achievable. The accurate installation and set up of reading equipment is also important. Over 11,000 EID tags were tested. The high level results are summarised at table1.

Table 1.

Read rate	Source of the EID tags tested
100%	12 types purchased anonymously from 7 suppliers. Bench-tested. Met the required standards. Read with a range of readers
99.5%	Already in sheep on farm - (shearling ewes, ewe lambs, and store lambs). 4 farms over 6 days
98.5%	Recovered from lambs at 2 large abattoirs over 6 days

Alidma recommendations and Defra's response

EID Tags and Transponders

- **Colour of tags** – yellow and red tags are reserved for EID tags in England and Wales[3] but this is not the case for Scotland where any colour tag can be EID so this can cause confusion and contribute to non-read rates in rapid throughput systems using hand held readers.

  ALIDMA recommends all devolved areas agree to use only yellow or red for EID tags to minimise confusion

  > The colour(s) of official sheep identifiers applied to sheep in Scotland is a matter for the Scottish Government. Defra will draw this recommendation to their attention.
  >
  > Following the conclusion of a public consultation the Scottish Government did not mandate the colour of the EID tag applied to sheep on a holding of birth in Scotland. Having regard to the situation in the rest of the UK it does recommend that keepers there use a yellow tag. It will review this when it next amends its sheep identification legislation. Tag suppliers can however encourage keepers in Scotland to have regard to the Scottish Government's recommendation when they order EID tags.

- Keepers using pre 2010 stocks of non-EID yellow tags – particularly relevant in England and Wales where yellow tags should be EID tags

  ALIDMA recommends tighter controls to stop old tags being used

  > Defra notes that this is likely to be a diminishing problem as more keepers will have disposed of old stocks of tags that may have been purchased over 3 years ago and as any animals erroneously identified with these tags are slaughtered.
  >
  > Defra will work with industry bodies, trade associations, and ear tag suppliers to remind keepers of the law on which tags cannot now be used to identify sheep (and goats).
  >
  > Defra will ask Local Authorities who enforce the relevant legislation to advise keepers likewise where they see this happening.
  >
  > Defra will ensure this is reiterated in any future revision of official advice including future website content and materials used by its farming advisory services and by its helpline.
  >
  > Defra allows interested parties free use of its advisory materials including a related poster: http://www.defra.gov.uk/publications/files/sheep-old-tag101217.pdf

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[3] Yellow for an EID tag applied on the holding of birth (or a replica (same number) if applied elsewhere). Red for a (new ID number) replacement tag applied elsewhere – e.g. when a tag is damaged/lost

- There is occasionally uncertainty about whether animals in an incoming batch actually carry EID devices

  ALIDMA recommends vendors make this clear to staff at reading sites / reader operators

  > Defra will draw this recommendation to the attention of industry bodies representing producers, store lamb finishers, auction markets and abattoirs.
  >
  > Vendors of mixed batches[4] of animals (not moving direct from one holding of birth) can advise the markets and purchasers that: (i) it is a mixed batch and (ii) whether some or all the animals in the batch are electronically identified.

- Loss of the ear tag

  This is not completely unavoidable but ALIDMA recommends that keepers should pay more attention to tag application by following instructions supplied with the tags. ALIDMA also recommends that keepers use the correct applicator for the tag

  > This recommendation accords with Defra's advice in its handbook on sheep and goat identification for keepers.
  >
  > Suppliers of approved ear tags have signed up to a code of practice which requires them to supply all ear tags, and applicators with instructions for their insertion/use, including pictorial details of the positions in the animal's ear in which the tag is to be placed. It is accepted that suppliers have no control over the end-user actually complying with their instructional literature

- Loss of the transponder from the tag whilst in the sheep's ear
  ALIDMA recommends that Government considers how this can be mitigated by amendments to the PAS 66 tag specification

- Poor quality construction – although tags are subject to rigorous testing, certification and QA to minimise the likelihood of this
  ALIDMA recommends that relevant improvements to the PAS 66 specification are considered when it is next reviewed

  > Defra accepts these two recommendations.
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  > Defra will ask a review team to consider these issues when the BSI PAS 66 specification (official identification ear tags for sheep and goats) is reviewed in the first half of 2013.

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[4] Batches may be "mixed" i.e. a batch may include animals with more than one flock mark or more than one herd mark. This is more common for movements by a finisher of store lambs.

All keepers (dispatch/receiving) *must* record how many of each different flock marks there are in a mixed batch (in their holding registers (it is permitted to only record the overall batch total on the movement document).

- Fracture of the ferrite, glass transponder, or damage to the coil

  Although this is rare ALIDMA recommends instances should be reported back to BCMS (to help improve tag design) and the manufacturer (so that fault components can be analysed and problems rectified).

  ALIDMA recommends that the correct handling of tags during transport and storage is adhered to

  Defra has produced a form that keepers can use to provide feedback on tags to RPA-BCMS. Manufacturers' literature on the application of tags must include reference to where it can be obtained – it is published on the RPA website.

- System or administrative errors have been identified in markets where the head count may not match the number of EID reads. Examples include: a ewe with two lambs at foot, all three carrying an EID device recorded at market as one animal yet three identities resulting in 300% read rate; animals tagged with one tag each from a matched pair of EID and visual tags, 100 animals giving 50% read rate.

  ALIDMA recommends improved training of operators to spot this to raise awareness at markets and abattoirs

  Defra will draw this recommendation to the attention of industry bodies representing auction markets and the abattoir sector.

Handheld Readers

- Reader shuts down or turns off whilst reading ear tags
- Low battery life of handheld readers can be overlooked by the operator
- Reader may not provide enough energy to activate the device
- Human error cannot be ruled out when large batches of sheep are being read

  ALIDMA recommends improved training of operators

- High levels of electro-magnetic interference can affect transponder response

  ALIDMA recommends that each supplier ensures that reading equipment fully complies with the requirements of EC Regulation 21/2004 and that specific guidance and support on reader system set up and moreover that Government and industry work together to set up a standard for reader system installation and maintenance

Defra does not approve or endorse reading equipment or monitor the performance of the many types on sale in the market place. That is a matter for users.

Manufacturers and suppliers of electronic reading equipment must observe EU requirements for electronic reading equipment. They are best placed to agree standards for reader system installation and maintenance. It is therefore appropriate industry to agree and publish standards that should be observed and provide advice on the set up and use of their equipment.

Premises such as markets operating as Central Point Recording Centres already agree as part of their approval to ensure their staff are competent in the use of EID tag reading equipment.

Defra will draw this recommendation to the attention of industry bodies representing producers, auction markets and abattoirs.

Panel readers and associated software systems

- Panel readers may not be accurately configured to read both FDX-B and HDX tags

- Panel reader was not officially commissioned at the time of [testing installation] – this led to some higher than expected race non-reads

- A remote computer not operational so EID tag numbers were not saved

- Single plate panel readers in race systems – readability may be affected if ear tags are not all in the ear nearest the panel reader or race systems are too wide

- Reader may not provide enough energy to activate the device

- High levels of electro-magnetic interference can affect transponder response

ALIDMA recommends that each supplier ensures that reading equipment fully complies with the requirements of EC Regulation 21/2004 and that specific guidance and support on reader system set up and moreover that Government and industry work together to set up a standard for reader system installation and maintenance.

Defra notes these two recommendations on reader system setup.

Defra does not approve or endorse reading equipment or monitor the performance of the many types on sale in the market place. That is a matter for users.

Manufacturers and suppliers of electronic reading equipment must observe EU requirements for electronic reading equipment. They are best placed to agree standards for reader system installation and maintenance. It is therefore appropriate industry to agree and publish standards that should be observed and provide advice on the set up and use of their equipment.

Commensurate with the principles of deregulation and partnership working described in the report of the Farming Regulation Task Force[5] it would be appropriate for such a standard to be developed with suppliers and industry representatives and for them both to monitor and report on its application.

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Defra will draw this recommendation to the attention of industry bodies representing producers, auction markets and abattoirs.

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[5] http://www.defra.gov.uk/publications/2011/05/17/pb13527farming-reg-report/ - Chapter 2

Next steps

Having regard to the recommendations on tag design and construction Defra will initiate work early in 2013 to review the PAS 66 specification. The review team will consider these issues. Defra will remind keepers of the rules on the options for permitted identifiers. Defra will otherwise draw the attention of industry bodies and others to relevant recommendations.