



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Appendix B4 of Section 10 of ICAR Guidelines - Preliminary Test for Conventional Plastic Ear Tags

Preliminary Test for Conventional Plastic Ear Tags

Version February, 2018

Network. Guidelines. Certification.

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Change Summary

Date of Change	Nature of Change
August 2017	Changed the number of requested samples for the Preliminary Assessment from 120 ear tags +10 male components to 130 ear tags.
August 2017	Added 'or one of the tag parts' (section 3)
August 2017	<p>Removed the phrase 'Broken or unfastened tags must not be re-usable' and replaced with 'None of the ear tags – neither male nor female part – must be re-usable. Male pin tips must break off and remain within the female caps (locking gap).'</p> <p>Changed the execution of the axial and transverse tests at 55°C (+ 2°) from 'immediately' to 'within 10 seconds' after tags are removed from the heating/climatic chamber</p> <p>Removed 'The number of tags unlocked without breakage or sustaining permanent damage during the transverse test is recorded, and broken or unfastened tags must not be reusable'</p> <p>Added the requirement 'At ambient conditions, axially tested tags designed to be used in pigs shall not break with the application of a force lower than 200 Newton.'</p> <p>(section 5)</p>
September. 2017	Text Imported into the template and styles applied.
October 2017	Typos corrected. Heading updated to October. Corrected cross references.
February 2018	On Saturday 10th February, changes approved by the ICAR General Assembly in Auckland, New Zealand.

1 Manufacturer requirements

At the commencement of the Preliminary assessment the manufacturer must deliver:

- a. A sample of 130 ear tags marked with the reference printing applied using the same technique and style as used (or intended to be used) in the commercially marketed tags. Note: Tags used in this phase are likely to be destroyed during testing.
- b. Two tag applicators or equivalent devices supplied for the application of tags to animals.

2 Ear tag design

Ear tags shall have smooth, rounded corners and no sharp edges or protrusions specifically on the shaft of the piercing pin. The following measurements will be taken:

- a. The weight of the complete locked ear tag.
- b. The dimensions of the front and rear plate (height, width and thickness).
- c. The pin (length and diameter).
- d. The entrance hole of the cap.

Values and observations potentially impacting on animal welfare will be reported.

3 Locking mechanism checks

The primary purpose of these tests is to verify that the male to female locking mechanism, once correctly applied using the supplied applicator, cannot be subsequently dismantled in such a way that would allow the tag or one of the tag parts to be re-used. A locked ear tag should be tamperproof so tampering with the locked tag will render the tag unusable.

4 Application test

The application evaluation will be carried out using two groups of tags:

Group 1: 80 tags with the front and rear tag components locked together but without being inserted through ears.

Group 2: 40 tags applied and locked into ears obtained post slaughter.

The performance level required for the 120 ear tags shall be:

- a. Successful locking of the front and rear tag components of all ear tags.
- b. No breakage of any tag component at locking.
- c. No deformation of any tag component after locking.
- d. No unlocking without breakage or irreparable damage to the ear tag.

The test centre will also check the rotation of the tag components on the locked tags. The following characterisation will be used:

- a. Tag components rotate freely.
- b. Tag components rotate but not freely.
- c. Tag components do not rotate.

5 Resistance of the locking system

The 80 ear tags of Group 1 will be divided into four sub-groups of 20 tags. These four sub-groups will be subjected to increasing forces to determine the force required to cause breakage or unfastening of the ear tag. The forces will be applied at a speed rate of 500 mm/min. The force applied to cause breakage or unfastening of each ear tag will be recorded.

- a. Group 1: axial test at ambient conditions ($21^{\circ}\text{C} \pm 2^{\circ}$)
- b. Group 2: axial test at $55^{\circ}\text{C} (\pm 2^{\circ})$; the forces will be applied within 10 seconds after the tags are removed from the heating or climatic chamber
- c. Group 3: transverse test at ambient conditions ($21^{\circ}\text{C} \pm 2^{\circ}$)
- d. Group 4: transverse test at $55^{\circ}\text{C} (\pm 2^{\circ})$; the forces will be applied within 10 seconds after the tags are removed from the heating or climatic chamber.

5.1 Requirements

- a. None of the ear tags – neither male nor female part – must be re-usable. Male pin tips must break off and remain within the female caps (locking gap).
- b. At ambient conditions, axially tested tags designed to be used in cattle shall not break with the application of a force lower than 280 Newton.
- c. At ambient conditions, axially tested tags designed to be used in sheep and / or goats shall not break with the application of a force lower than 200 Newton.
- d. At ambient conditions, axially tested tags designed to be used in pigs shall not break with the application of a force lower than 200 Newton.