



National Animal Identification and Tracing (NAIT)

APPROVED PERMANENT RADIO FREQUENCY IDENTIFICATION DEVICE STANDARD (CATTLE & DEER)

**Version 1.1
(June 2010)**

This standard is based on products and technology
which are currently available.

NAIT wish to acknowledge the support of Meat and
Livestock Australia for their support in the drafting of
this standard.

1 Introduction

- 1.1 The National Animal Identification and Tracing project (NAIT) has been established to create a system for animal identification and lifetime tracing which incorporates a core registry and associated standards. This requires permanent identification of cattle and deer at the property of birth with an RFID identification device.
- 1.2 This standard provides rules that apply to permanent identification RFID devices that are approved for use in identification systems approved under the Biosecurity Act (approved Scheme) as NAIT RFID Identification devices.
- 1.3 This standard applies to only to cattle and deer and other species that may be incorporated in the future.
- 1.4 NAIT RFID devices are only to be sold through animal identification schemes approved under the Biosecurity Act.
- 1.5 Only RFID devices meeting this standard will be able to be used in the proposed National Animal Identification and Tracing Programme.
- 1.6 RFID devices that meet the requirements of this standard must carry a NAIT logo.
- 1.7 NAIT-endorsed devices may only be supplied to producers in accordance with a NAIT licensing agreement.
- 1.8 RFID devices may be used as official secondary devices under the current animal identification schemes with the scheme administrator's permission.
- 1.9 RFID devices must be inserted into the right (off-side) ear of the animal to be identified.

2 Updates to this standard

- 2.1 This standard can be updated by the NAIT governance group or subsequent entity.

3 Device Characteristics

- 3.1 NAIT RFID devices shall be in the form of a white button ear tag. Devices shall contain a half duplex (HDX) transponder or full duplex (FDX) transponder complying with NZ/ISO 11784:2001, or an approved equivalent machine readable technology. The unique number encoded within each transponder must be non-reprogrammable.
- 3.2 The electronic radio frequency identification (RFID) device shall be low frequency as specified in NZ/ISO 11785:2001.

- 3.3 Transponders included in a NAIT RFID device shall be encoded with the relevant manufacturer's code granted by the International Committee on Animal Recording (ICAR).
 - 3.4 Recycling of NAIT RFID devices or the transponders that they contain for resale or reuse is not permitted.
 - 3.5 NAIT RFID devices cannot contain recycled components, including transponders.
 - 3.6 Each device shall be marked on the male (outside ear) with the NAIT logo and the words '**Do not remove**'. This information shall appear on the component of the device designed to be placed on the outside of the right ear.
 - 3.7 NAIT RFID devices will be readable on the female (inside ear) transponder portion of the device. NAIT-approved markings on the female tag component are:
 - 3.7.1 The same unique visual identification that is on the primary tag issued by the System Administrator of the identification systems approved under the Biosecurity Act. This must include the approved scheme herd identifier (e.g. AHB herd code or LIC participant code, logo); or
 - 3.7.2 The same 16-digit RFID number that is encoded in the transponder of the RFID device as well as the approved scheme herd identifier (e.g. AHB herd code or LIC participant code) and logo; or
 - 3.7.3 As for clause 3.7.2 but with the addition of the animal's herd management number in its current herd. (This option specifically provides for recorded herds during the transition period and may not be available beyond the legislated mandatory date).
 - 3.8 NAIT may assess and endorse devices containing transponders, which are not NZ/ISO 11784:2001 / NZ/ISO 11785:2001 compliant, or alternate machine readable technology provided:
 - 3.8.1 There is clear independent evidence that the device meets the performance criteria specified in this standard, in particular clause 6., and
 - 3.8.2 The operation of such technology and associated readers will not impact adversely on the reading of devices containing NZ/ISO 11784:2001 / NZ/ISO 11785:2001 compliant transponders or the operation of a national animal identification database.
- 4 The application of ID devices does not exclude the optional use by producers of management ID devices so long as they do not conflict with the machine reading of the NAIT RFID device, and do not conflict with other regulations relating to animal recording such as section 51 of the Biosecurity (Animal Identification System) Regulations 1999.

5 Requirements of Systems Administrators of identification systems approved under the Biosecurity Act.

- 5.1 System Administrators must comply with the following requirements.
 - 5.1.1 Maintain accurate records of the NAIT RFID devices issued in the format specified by NAIT. Specifically the name and address of the RFID device purchaser, visual number, RFID number, date of issue, approved herd identifier and the allocated NAIT property location number once available.
 - 5.1.2 Visual numbers on NAIT RFID devices are unique.
 - 5.1.3 Associate the visual number correctly with the RFID Number for each device.
 - 5.1.4 Replacement or duplicate NAIT RFID devices meet the identification scheme requirements.
 - 5.1.5 Ensure manufacturers of NAIT RFID devices comply with the following:
 - Manufacturers of NAIT RFID devices shall have an auditable production process which eliminates the possibility of errors associated with the printing of visual information on devices
 - Ensures that the RFID transponder numbers are unique
 - Ensures that the RFID number meets the ICAR Standards,
 - Checks that the transponder can be reliably read, prior to the dispatch of the device to a producer.
- 5.2 Suppliers shall have a defective product recall and replacement procedure. Suppliers shall alert MAF within 10 working days of all complaints from producers, processors or stock agents about RFID device quality, performance and reliability.
- 5.3 Suppliers shall maintain a copy of producer orders, the date each order was dispatched and the details regarding the transponder and unique visual identifiers for each device. Records of orders and dispatch details may be kept in electronic form and should be retained for 24 months to allow for audit.
- 5.4 Suppliers of endorsed devices shall transmit to administrators of the approved national identification schemes, information set out in 5.1 above on producers receiving devices, and including the visual herd and individual numbers and RFID numbers of the devices supplied and the date each order was dispatched. Such information shall be transmitted within 24 hours of the dispatch of devices.
- 5.5 Suppliers shall permit auditors engaged by administrators of approved animal identification schemes or a Government body to audit during normal business hours the manufacturing, printing and dispatch facilities of the supplier provided at least

ten working days notice is given of the audit. The supplier shall permit the auditor to inspect and copy records relating to the production and dispatch of RFID devices issued to producers for use as part of the NAIT.

6 Device Performance Specifications

- 6.1 Devices shall not be capable of causing chemical contamination of meat or edible offal, damage to the hide, or be capable of adversely affecting the health and well-being of cattle and deer following attachment. The likelihood of devices becoming physical contaminants in meat or edible offal must be remote.
- 6.2 There should be no apparent physical deterioration (other than colour) in devices due to ultraviolet radiation, rain, heat and cold or other environmental influences for the lifetime of animals to which they have been applied in New Zealand conditions.
- 6.3 a) Clause applicable to tags for **cattle** only:

In the absence of electromagnetic interference, 99.5% of all RFIDs must be able to be machine readable in animals moving freely at a rate of up to 2m/second in single file past a reading point with a portal width of 0.8m.

b) Clause applicable to tags for **deer** only:

In the absence of electromagnetic interference, 99.5% of all RFID tags must be able to be machine readable either by panel or via wand readers, or both in combination, without duplication or omission of animals in a controlled enclosure set up for that purpose
- 6.4 The transponder within RFID devices shall be machine readable and reliable for the life of the animal following the installation of devices.
- 6.5 The physical loss of devices from cattle and deer on typical New Zealand properties shall not exceed a 3 year rolling average of 1% (per species) under normal field conditions.
- 6.6 The device must not be susceptible to damage under normal application conditions when applied as the manufacturer specifies.
- 6.7 NAIT may accept international best practice regarding device performance as equivalence with New Zealand standards.
- 6.8 Printing on devices shall remain visually readable for the lifetime of the animal.
- 6.9 RFID devices must be designed to prevent unauthorised removal and reuse and be tamper proof.
- 6.10 It must be possible to install RFID devices on animals from birth.

NAIT Standards - Glossary of Terms

Term	Meaning
Approved Scheme	Identification systems approved under the Biosecurity Act
Device	An ear tag or other piece of equipment that is attached to animals which may serve to identify them.
Ear tag	A device which is attached to the ear of animals and provides a means of identifying them.
Machine readable	Ability to electronically read encoded information in a transponder or alternate machine readable technology.
Manufacturer Code	The first 3 digits of the transponder number as provided by ICAR.
Transponder	An integrated circuit (microchip) that has the capacity to respond to an electronic signal at the appropriate frequency from a reader and once activated, respond with a signal containing the encoded number that can be decoded by the reader.
National Animal Identification and Tracing	The proposed national system for registering individual animals and tracing movements.
NAIT Logo	The logo used to identify devices or certification for device use under the NAIT.
NAIT Standards Committee	The committee responsible for NAIT standards.
Identification device	A device that is permanently attached to livestock on the property of birth and which may not be legally removed until the livestock is slaughtered.
Processor	A person, organisation or company actively engaged in the slaughter of livestock.
Recycling	The process of collecting, accounting for, recovering transponders and/or redistributing overseas RFID devices used for the identification of livestock.
Supplier	The ID manufacturing entity holding a NAIT licence.
System Administrator	Organisation responsible for running the Approved Schemes
Tag Manufacturer	Approved manufacturer under current regulations - approved by System Administrators
Vendor	A person, organisation or company selling an animal.

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