**5.2 Companion animals: Canine and feline (dogs and cats)**

The transponders have to be put subcutaneously in the canine and feline. The following are two

recognized implantation sites in use worldwide.

a) The transponder (containing a microchip) is implanted in the left side of the body in the cranial

third of the neck between ear and shoulder (see Figure 1).

— Position of the insertion point: From the dorsoventral midline of the neck at the caudoventral

edge of the ear 1 cm to 6 cm (one to four fingers, depending on the size and the breed) of the

distance to the anterior edge of the shoulder blade.

— Direction: Insert the cannula anteroventrally and place the transponder subcutaneously so that

the position of the transponder is at a 90° angle to the jugular vein



b) The transponder (containing a microchip) is implanted subcutaneously in a way that it lies in

the midline halfway between the anterior and posterior edge of the scapulae after injection

(see Figure 2).

— Position of insertion point: The cannula is inserted through the skin at the point which deposits

the transponder in the subcutaneous tissue at the specified location.

— Directions: The cannula should be held at an angle of 20° to 30° to the skin entering the body in a cranioventrally direction.

— Depth of penetration: The cannula should penetrate the body only a sufficient distance to

ensure that the transponder comes to lie in the specified position. This will depend on the size

of the animal.



Scanning with the appropriate RFID reader (conforming to ISO 11785) shall concentrate on the

implantation site commonly used in that geographic locale. If an animal scan negative, it is strongly recommended to scan the alternative site in use, as defined above. As migration is possible, the animal might need to be fully scanned to detect the presence of a transponder after migration.

Since a considerable number of countries do not conform to either a) or b), it is strongly recommended to describe the injection site in the relevant ID document or passport

**5.3 Reading and detecting the position of the injectable transponder**

Depending on the size of the animal and the injection site used, it might be complicated to detect the position of the transponder.

**5.3.1 General reader information**

— With a hand-held reader with a big air coil antenna of which the analog part of the transceiver has been fully developed, a 12 mm transponder, which is positioned horizontally under the subcutis in parallel to the spinal column, can be read at a distance of about 10 cm to 20 cm. This means the detection of an operating injectable transponder determines that the device is present although it does not indicate where it is positioned.

— With a hand-held reader with a vertical integrated ferrite core antenna of which the transceiver

has been built with a standard reader chip, a 12 mm transponder, which is positioned horizontally

under the subcutis in parallel to the spinal column, can be read on a distance of up to 5 cm. This

means the detecting takes place in a circular area of about 5 cm.

— Turning such a reader perpendicularly decreases the area of detection to a circular region of about 2 cm in diameter when approaching closer to the animal.

A very precise position of the transponder can be determined by X-ray.

**5.3.2 Detecting the transponder position**

— When it has been injected on the left side of the neck

Approach the animal with the reader in the read and search mode and move the reader slowly from the shoulder blade direction ear in circular movements.

— When it has been injected in the midline between the scapulae

Hold the reader close to the animal over the shoulder blades in the midline. Move the reader slowly in a circular motion along the midline and down each side of the shoulder and neck. Rotate thereader from side to side while doing so to change the orientation between the transponder and the transceiver antenna. Keep the reader close to the animal.

— When the transponder is not found at the expected position (migration)

Detecting and decoding of an operating injectable transponder is possible with the above mentioned readers and ways, depending on the reader type and orientation, it might take time. To scan an animal with a migrated transponder, a scanner is needed which can be put in search mode to scan until either the transponder is detected or the person using the reader decides to stop reading.

a) When the transponder has been injected on the left side of the body, scan first the shoulder region to the elbow and the foot on the left side and search laterally and ventrally of the neck, direction sternum. To detect if the transponder is definitively in the animal’s body, a radiograph is needed.

b) If the transponder cannot be found after searching around the whole body with a reader with a good reading performance, there either seems to be no transponder or there seems to be a defective transponder. When the transponder has been injected between the shoulder blades, it might have migrated to either the left or the right side of the animal’s body. Scan first the shoulder region to the elbows and the foot on both sides and search laterally and ventrally of the neck, direction sternum.

To detect if the transponder is definitively in the animal’s body, a radiograph is needed.

c) Any authority adopting the standard should make clear to users that if they fail to identify a

transponder at the recommended site, they should scan the alternative site before concluding that no functional microchip is present, just in case the animal in front of them has been implanted at the alternative site.