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Animal (mammal) traps —

Part 5:
Methods for testing restraining traps

Pièges pour animaux (mammifères) —

Partie 5: Méthodes d'essai pour pièges de capture

Reference number
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Contents

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10990-5 was prepared by Technical Committee ISO/TC 191, *Animal (mammal) traps*.

ISO 10990 consists of the following parts, under the general title *Animal (mammal) traps*:

— *Part 1: Mechanically powered, trigger activated killing traps*

— *Part 2: Restraining traps*

— *Part 3: Submersion killing traps*

— *Part 4: Methods for testing killing-trap systems used on land or underwater*

— *Part 5: Methods for testing restraining traps*

Annex B forms a normative part of this part of ISO 10990. Annexes A and C are for information only.

Introduction

The purpose of this part of ISO 10990 is to provide test methods for performance evaluation of traps in the areas of animal welfare, capture efficiency, selectivity and user safety. Jurisdictional regulations and guidelines related to conducting tests with animals should be followed.

Animal (mammal) traps —

Part 5:
Methods for testing restraining traps

1 Scope

1.1 This part of ISO 10990 specifies methods for use in performance testing of traps used on land to restrain mammals. The performance testing includes methods for evaluation of trauma, selectivity, capture efficiency and user safety.

1.2 It is recognized that injury is only one component of animal welfare. However, there are insufficient data collected in a scientific manner on the additional components to allow for the complete assessment of animal welfare. Several areas of investigation are presented for evaluation in annex A. Selection of the data collection methodology is left to the investigator. However, it is assumed that such collection methods will follow accepted practices.

It should also be understood that data collected in any, or all, of the suggested areas will probably not provide an absolute measure of welfare. Rather, the compilation of such data over time should provide a mechanism for comparing the relative animal welfare impacts of different restraint methods.

2 Terms and definitions

For the purposes of this part of ISO 10990, the following terms and definitions apply:

2.1
capture efficiency
capability of the trap, as part of a trapping system, to capture target animals within a specified time period

NOTE This is expressed as a percentage of the total number of traps set.

2.2
capture rate of target animals
capability of a trap, as part of a trapping system, to capture target animals

NOTE This is expressed as a percentage of the total number of potential captures of target animals.

2.3
capture rate of non-target animals
capability of a trap, as part of a killing-trap system, to capture non-target animals

NOTE This is expressed as a percentage of the total number of potential captures of non-target animals.

2.4
control trap
most commonly used restraining trap for the target animal which is used in accordance with the restraining trap system established through most commonly used practice

NOTE This will be determined by the authority using this part of ISO 10990, such as a nationally recognized certification body.

2.5
instructions
instructions available to the user at the point of sale of the trap(s)

2.6
restraining trap
device used to capture and restrain a mammal

2.7
restraining-trap performance
capability of a restraining trap, as part of the restraining-trap system, to meet the requirements related to trauma, selectivity, capture efficiency and user safety as specified by the authority implementing the standard

2.8
restraining-trap system
system set with the intent to capture and restrain a mammal comprising a combination of

— equipment (the trap and the trigger configuration);

— set (including site modifications, lures, baits, location and other relevant requirements specified in the instructions)

2.9
manufacturer
producer including inventor or a national distributor

2.10
non-target animal
animal of any species other than the one for which the trap is set

2.11
potential captures
number of animals caught plus the number of animals having identifiably escaped

2.12
selectivity
number of captured target animals divided by the total number of captured animals

2.13
target animal
an individual of the species for which the restraining trap system has been set with the intent to capture

2.14
trap layout
pattern in which the test traps and control traps are positioned for field testing

3 Sampling

3.1 Sampling of traps

Select the number of traps specified in each test procedure, from the total number of traps submitted, using random sampling procedures.

3.2 Number of replicates in tests

The number of replicates in the tests shall be sufficient to determine if the differences are statistically significant at the level to be determined by the authority implementing this part of ISO 10990. However, in deciding on the number of replicates required, it should be noted that the greater the sample size, the more reliable are the test results. This decision needs to be considered against welfare aspects related to reducing the number of animals used in the testing.

4 Field testing for effects of restraint on animals

4.1 Principle

The effects of the restraint on the animals by the trap is evaluated in the field. Pathological evaluation of captured animals is part of the test. This test is also used to collect data on capture efficiency, selectivity and user safety (see 1.2, clauses 5, 6 and 7 as well as annex B).

4.2 Test personnel

The test personnel shall be experienced and capable of trapping the target animals. They shall also be familiar with the equipment and the testing procedures.

The pathological evaluation of animals trapped during testing shall be determined by a veterinary pathologist (preferably experienced in the examination of wildlife species).

4.3 Apparatus

4.3.1 Camera, to take photographs of the sets and entrapped animals.

4.4 Traps

The experimental restraining traps shall be assigned with identification numbers. The number of test traps shall be sufficient to determine if the differences are statistically significant at the level to be determined by the authority implementing this part of ISO 10990 (see 3.2). Prior to testing, the restraining traps shall be prepared in a manner recommended by the manufacturer. The preparation may include boiling, waxing, dyeing or painting. An equal number of control traps shall be used, if comparison of the trap performance is desired (see clauses 5 and 6).

4.5 Test procedure in the field

Establish the trap layout, record the longitude, latitude, total area of the site, type(s) of habitat and the animal species (target and non-target) known to be present. Set the traps within the trap layout in accordance with the manufacturer's instructions. Take pictures of each trap and its set and of the general environment. Make the trap identification number a part of the photographic record. (If control traps are used, place the experimental and control traps in the same substrate and/or vegetation type in pairs, with appropriate separation for the target animals, or alternatively within the trap layout using random assignment and the bait or lure recommended by the manufacturer.)

Check the traps daily (once within each 24 h period; at the same time of the day if at all possible) during the test period.

Euthanize all captured target animals immediately using a method of euthanasia that will not obscure any traumas caused by the trap (see note below). Take photographs of each entrapped animal with a label that shows the file number of the animal. Remove the animals from the traps.

Examine externally the captured non-target animals to evaluate whether they are likely to survive upon release without any treatment. Euthanize any captured non-target animals that are too severely injured for release, using a method of euthanasia that will not obscure any traumas caused by the trap (see annex C), and record the method of euthanasia. Provide adequate veterinary care for other injured non-target animals.

NOTE When necessary, for example for conservation reasons, remove the target animals alive from the trap and replace the pathological evaluation by clinical examination of live, captured target animals.

Record the following information regarding each visit to the traps:

— the date and time;

— the weather conditions;

— the ground conditions (e.g. frozen, snow-covered, etc.);

— the trap type;

— the site location of the trap;

— the trap-site substrate and/or vegetation type;

— the status of the trap (i.e. fired, not fired);

— the species captured (if any);

— the number of identifiable escapes;

— the file number for each animal;

— the location of the restraining trap on each animal (if applicable);

— the position of each animal in the trap;

— the condition of each animal (dead, alive, unconscious);

— the observations related to the operation and user safety of the restraining trap.

Make sure that the number of target animals captured by the test traps is sufficient for the differences to be statistically significant at the level to be determined by the authority implementing the standard and include all captured target animals in the test and the report. If necessary, extend the test over time until the required number of target animals have been captured.

Label all the carcasses of target and euthanized or dead non-target animals captured in the test traps (whole carcasses) with the following information:

— the date of capture;

— the file number of each animal;

— the method of killing/euthanasia.

Place the labelled carcasses in plastic bags and freeze them promptly. Make sure that the carcasses are not damaged during handling and transport. Keep the carcasses frozen until pathological and/or radiological examination is performed (see 4.6).

4.6 Pathological evaluation of trapped animals

4.6.1 Principle

The trap-related injuries on a sufficient number of animals trapped during testing (see 3.2) are determined by a veterinary pathologist using accepted post-mortem veterinary examination practices.

4.6.2 Procedure

Subject a sufficient number of the carcasses of trapped animals (see 3.2) to pathological, radiological and, when necessary, histological examination by a qualified veterinary pathologist using accepted post-mortem veterinary examination practices as specified below. The pathologist shall determine and record the trap-related injuries (see 4.6.2.4).

4.6.2.1 Post-mortem examination

Perform the post-mortem examination as specified below and complete the pathology protocol (annex B) for each animal either by reporting the observations made or by NK (not known), NA (not applicable), NI (not inspected) or NS (not submitted).

When performing a post-mortem examination, describe the nature and extent of all tissue damage related to the area of the body examined. Start at the head and proceed anterior-posterior describing all lesions. For the internal examination, dissect all organs noting haemorrhage and damage to soft tissue, bone, organs, etc.

Record the following information regarding each animal:

— the scientific name;

— the sex as M (male) or F (female);

— the age as young/yearling, sub-adult or adult (or more precisely, if known);

— the mass in kilograms;

— the state of nutrition as emaciated, poor, normal or fat;

— a description of lesions/injuries.

4.6.2.2 Radiological examination

Perform the radiological examination when traps based on striking/clamping forces are used. (For other types of traps this is optional.) X-ray the target area of the striking/clamping force and all other organs where fractures/lesions might occur.

4.6.2.3 Histological examination

When necessary, collect specimens for histological examination from the following organs: heart, lung, liver, kidney, brain, adrenal, muscle (preferably longissimus dorsi) and from the area where the trap strikes/restrains. Fix the specimens in 10 % neutral buffered formalin. Collect and examine other organs, if histology is relevant to the evaluation of the type, severity and age of the lesions/injuries.

4.6.2.4 Trap-related injuries

Complete the last part of the pathology protocol (annex B) and describe all the injuries that can be related to the trap/trapping system. For comparison of the performance of restraining traps the injury scales specified in annex C may be used.

4.7 Test report

Report the following information for both test and control traps (see also clause 8):

a) the date and time;

b) the longitude and latitude of the site;

c) the total area of the trap layout;

d) the type(s) of habitat;

e) the weather conditions;

f) the ground conditions;

g) the species (target and non-target) known to be present;

h) the number of traps tested;

i) the total number of trap-nights (number of traps × number of nights set);

j) the number of traps fired and not fired;

k) the species captured (if any, common and scientific name);

l) the total number of identifiable escapes;

m) the total number of captured target animals;

n) the total number of captured non-target animals;

o) the capture rates of target and non-target animals;

p) the file number for each animal;

q) the location of the restraining trap on the animal (if applicable);

r) the position of each animal in the trap;

s) the condition of each animal (dead, alive, unconscious, injured);

t) any observations related to the operation and user safety of the restraining trap;

u) (if control traps are used, record the above information related to them);

v) the pathology protocol prepared by the veterinary pathologist for each evaluated animal (i.e. the information detailed in annex B).

5 Selectivity test

5.1 Principle

The capability of the restraining trap system to capture target animals rather than non-target animals is evaluated in the field by recording the number of the target and non-target animals captured by the trap and by a control trap.

5.2 Procedure

Perform the test at the same time as the field test for the effects of restraint (clause 4). Use control traps and set them as specified in 4.5.

5.3 Test report

Report the following information for test and control traps (see also clause 8):

a) the number of captured target animals;

b) the number of captured non-target animals;

c) the selectivity (see 2.12).

6 Capture efficiency test

6.1 Principle

The capability of the restraining trap system to capture target animals is evaluated in the field by recording the number of target animals caught by the trap and by a control trap.

6.2 Procedure

Perform the test at the same time as the field test for the effects of restraint (clause 4). Use control traps and set them as specified in 4.5.

6.3 Test report

Report the following information for test and control traps (see also clause 8):

a) the number of captured target animals;

b) the number of traps set;

c) the capture efficiency (see 2.1).

7 Inspection and testing for user safety of traps

7.1 Principle

The ability of the trap design, and/or recommended safety devices, to provide safety to the users while handling and setting the trap is inspected and tested. Further information on user safety is recorded during the field tests (clause 4).

7.2 Test personnel

The test personnel shall be experienced in setting the traps for the target animals under normal trapping conditions and shall use reasonable precautions to ensure safety.

7.3 Inspection and testing procedure (when relevant)

Inspect five traps of the same design to:

a) assess whether the user could reasonably extricate him/herself from the trap unaided;

b) assess whether, with safety devices in place, a human limb is restricted from access to striking and clamping components of the trap;