

Guideline

# Diagnostic Data in Poultry Slaughtering



Version: 01.01.2024



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**Note:** The Guideline Diagnostic Data in Poultry Slaughtering is written in German and translated into English. In case of discrepancies between the translation and the German version, the German original is valid.

# 1 Fundamentals

The collection, documentation and feedback of diagnostic data are important tools for the management of animal health in poultry herds and therefore play a key role in quality assurance. The documentation of the diagnostic data of all slaughter batches of broilers and turkeys including the breeders and Peking ducks in a central database forms the basis for comparative evaluations.

The collected diagnostic data can be used - also together with other data - for evaluations as part of quality assurance, in particular for the purpose of continuous improvement, risk assessment and crisis prevention. These evaluations are used in the QS scheme by QS and by the service providers working in the QS scheme for the purpose of quality assurance.

## 1.1 Responsibilities and scope

This guideline serves as a binding guide for the collection of diagnostic data for poultry. All abattoirs in the QS scheme report diagnostic data from the slaughtering process to the central diagnostic database. The transfer is the responsibility of the abattoirs. The diagnostic data must be reported for all broilers and turkeys including the breeders, Peking ducks, laying hens and young hens/roosters delivered by livestock owners that participate in the QS scheme. No separate authorization of the abattoirs by the livestock owner is necessary, as this authorization is already governed by the declaration of participation.

The abattoirs must ensure that, in addition to the requirements of this guideline and the other applicable QS requirements (e.g. General Regulations Guideline, Guideline Certification), the applicable legal provisions (foreign legal provisions comparable outside Germany) are fulfilled.

The guideline Diagnostic Data in Poultry Slaughtering is intended for:

- abattoirs
- livestock owners
- coordinators and
- veterinarians

# 2 Findings

## 2.1 Which diagnostic data are recorded?

The poultry industry has conducted pilot projects on the recording and feedback of diagnostic data from poultry slaughtering together with Osnabrück University. The insights gained from these projects are being incorporated in the systematic recording of diagnostic data within the QS scheme. The following diagnostic data must be recorded for each slaughter batch and reported to the central diagnostic database for poultry:

- Mortality during fattening (animals that died or were culled during the fattening period)
- Animals that died during transport to the abattoir
- Footpad changes / paddle changes (score) (excluding laying hens and young hens/roosters)
- Number of rejected animals (incl. main reasons for rejection)
- Breast skin changes for male turkeys (percentage of ratings A, B and C)

# 3 Data collection and data transfer

## 3.1 Scope of the data collection

The listed assessment criteria represent a minimum standard. In addition, each abattoir can survey further parameters and/or deepen the parameters already included in the minimum standard. For each poultry slaughter, the following data must be recorded and reported to the central database on a stock basis and for each slaughter batch.

### Master data

- Abattoir ID (performed automatically via registration)
- Main destocking/Pre-destocking
- Number of slaughter batch
- Shed number/Shed designation (optional)
- Slaughter date
- Number of animals delivered for slaughter

- Location number of livestock owner
- Animal species/Animal group (turkeys, broilers, breeders, peking ducks, laying hens and young hens/roosters)
- Gender (for turkeys)
- Date of stabling (for turkeys and ducks stabling for fattening)

#### Diagnostic data

- Mortality during fattening (in percent)
- Animals that died during transport (in percent)
- Footpad score/Paddle score (excluding laying hens and young hens/roosters)
  - Figures of 2b > 20% in broilers or C > 25% in turkeys
  - Recording system, camera-based
- Accident (and reason for accident)
- Number of rejected animals (differentiated by reasons)
- Breast skin changes for male turkeys (percentage of ratings A, B and C in percent)

(The highlighted diagnostic findings are described further in the following chapters.)

## 3.2 Reporting options and reporting deadline

### Reporting options

The diagnostic data can be entered into the database in two different ways:

- Uploading of a csv file via <https://db.qs-befunddaten.de>
- Automated data transfer via an interface from the abattoir's IT to the diagnostic database.

Requirements for the formatting of the reporting's can be requested from the QS office.

### Reporting deadlines

The diagnostic data must be reported to the diagnostic database without delay, at the latest 14 days after the end of the calendar month.

## 3.3 Recording systems, data evaluation and data processing

Only reports that include the information on the number of discarded birds, the main reasons for discarding and the breast skin changes in turkey cockerels (if relevant) are accepted in the database

### 3.3.1 Footpad score/Paddle score

#### Recording system

Abattoirs with a slaughtering capacity of more than 500 turkeys or 4.000 broilers an hour must record and evaluate foot pad changes using a camera-based system. The system must be used to assign foot pad to a stage or score. The manufacturer and the type designation of the camera system must be disclosed to the QS office. Any changes to the camera system must be reported to the QS office.

If footpad changes are recorded using a camera-based system, all animals in a slaughter batch must be considered. Even if there is a failure in the camera-based system, recording of footpad/paddle changes must be ensured for each slaughter batch manually/visually based on a suitable sample size.

The quality of the recording and evaluation must be reviewed regularly. The requirements for this must be defined in the internal quality management system. The sensitivity, specificity and reproducibility of the results when recording foot pad changes/paddle changes must be defined in the company, known to the responsible employees and comprehensibly documented for third parties. The lighting conditions and other influencing factors in camera-based systems must be considered. In addition, a risk-based review must be carried out and corrective measures initiated if necessary.

The camera-based system must be cleaned, maintained, verified and, if necessary, calibrated at regular intervals. The specifications of the camera manufacturer must be considered accordingly. The evaluation of the camera system must be checked at regular intervals and, if necessary, adjusted so that the evaluation of foot pad/paddle changes and the corresponding classification is carried out according to the example images. Appropriate evidence must be provided in the audit.

If footpad/paddle changes are recorded manually/visually, at least 100 animals in a slaughter batch must be assessed (50 animals at the start and 50 animals at the end of slaughtering).

### Data evaluation

When assessing the foot pad changes (regardless of whether a camera system is used or not), the example images listed in Chapter 5.14 must be taken as a reference.

### Data processing

#### Poultry:

- Determination of the percentage of animals with footpad changes in the stages 0, 1, 2a, 2b
- Multiplication of the percentage in the respective stage by the assessment factors 0 for stage 0, 0,5 for stage 1, 1 for stage 2a, and 2 for stage 2b
- The sum of the results for the individual stages is the footpad score for the slaughter batch

Table 1: Calculation example for the footpad score of poultry

Stage	Percentage	Assessment	Calculation	Result
Stage 0	60%	0	60 x 0	0
Stage 1	20%	0,5	20 x 0,5	10
Stage 2a	10%	1	10 x 1	10
Stage 2b	10%	2	10 x 2	20
<b>Result of footpad score</b>				<b>40</b>

#### Turkeys

- Determination of the percentage of animals with footpad changes with the scores 0, 1, 2, 3, 4
- Multiplication of the percentage in the respective stage by the assessment factors 0 for stage A (sum of scores 0 and 1), assessment factor 0,5 for stage B (sum of scores 2 and 3), assessment factor 2 for stage C (score 4).
- The sum of the results for the individual stages is the footpad score for the slaughter batch

Table 2: Calculation example for the footpad score of turkey

Stage	Percentage		Total percentage	Assessment	Calculation	Result
Score 0	30%	Stage A	60%	0	60 x 0	0
Score 1	30%					
Score 2	20%	Stage B	30%	0,5	30 x 0,5	15
Score 3	10%					
Score 4	10%	Stage C	10%	2	10 x 2	20
<b>Result of footpad score</b>						<b>35</b>

## Ducks

- Determination of the proportion of animals with paddle changes in the scores 0, 1, 2, 3, 4
- Multiplication of the proportion in the respective stage with the evaluation factors 0 for stage A (score 0), evaluation factor 0.5 for stage B (score 1), evaluation factor 1 for stage C (score 2), evaluation factor 2 for stage D (score 3) and evaluation factor 3 for stage E (score 4)
- Sum of the scores for the individual levels gives the paddle score for the slaughter batch

Table 3: Calculation example for the footpad score of ducks

Stufe	Anteil		Summe Anteil	Bewertung	Berechnung	Ergebnis
Score 0	30 %	Stage A	30 %	0	30 x 0	0
Score 1	30 %	Stage B	30 %	0,5	30 x 0,5	15
Score 2	20 %	Stage C	20 %	1	20 x 1	20
Score 3	10 %	Stage D	10 %	2	10 * 2	20
Score 4	10 %	Stage E	10 %	3	10 x 3	30
<b>Result of Paddle score</b>						<b>85</b>

### 3.3.2 Breast skin changes

#### Recording system

The detection of breast skin changes in male turkeys must be carried out for each slaughter batch. At least 100 animals in a slaughter batch must be assessed manually/visually (50 animals at the beginning and 50 animals at the end of slaughter).

#### Data evaluation

The evaluation must be carried out on the basis of the specifications in the chapter Example images breast skin changes. The evaluation must be reviewed at regular intervals and, if necessary, adjusted so that the evaluation of the breast skin or the corresponding classification is carried out according to the sample images. Corresponding evidence must be presented in the audit.

### 3.3.3 Mortality in the stock and day of destocking

Information on mortality shall be given only for the main destocking. This information shall not be required in the case of pre-destocking. In the case of chickens, breeders, laying hens and young hens/roosters the mortality must be indicated from the date of stabling, in the case of turkeys and peking ducks from the date of stabling for fattening. To calculate mortality, the number of animals stowed must be compared with the number of animals delivered for slaughtering.

### 3.3.4 Number of rejected animals

When recording the number of rejected animals, a distinction must be made between the reasons for which the animals were rejected. Each rejected animal may be assigned to a maximum of one reason. The number of rejected animals must be reported for the following reasons:

- Diseases, infestation, alterations of the inner organs, especially heart, lungs, air sac, liver, intestines (including endoparasites), others
- Alterations of the skin especially contact dermatitis (breast, foot pad) and alterations of the muscles including injuries
- Skeletal and developmental damages/disorders (e.g. stunted growth, cachectic animals)
- Noticeable abnormalities of the carcass especially debleeding, color, odor, contamination, others
- Others

## 4 Data access

The data in the diagnostic database are only available to authorized users. Specific access regulations exist. All users have access to the data only after registration in the database. Each authorized user receives a username and password via the database administration.

For every livestock farm, data is available in the diagnostic database:

- Raw data (findings per slaughter batch)
- Number of animals slaughtered
- Aggregated data (summary evaluation of the data on the individual slaughter batches) from the QS information letter on diagnostic data from slaughtering

The scope of data access varies between authorized users.

### Abattoir

Abattoirs report diagnostic data to the central diagnostic database. They can also commission a third party to report the diagnostic data. Abattoirs and third parties commissioned to report the diagnostic data can view, change (verifiably), delete (verifiably) and download all data that they have entered in the diagnostic database. Access to and viewing of data entered by other abattoirs is only possible if the livestock owner has released the data.

On the grounds of data protection, also within the abattoir, downloading all data of an abattoir is only possible based on a separate access to the database. Abattoirs can apply for such access at the database administration.

This rule ensures that due consideration is paid to the special need to protect data, also within the abattoir.

### Livestock owner

Every livestock owner has access to the central diagnostic database. The access data (username and password) is provided by their coordinator. In the diagnostic database, livestock owners have the opportunity to view and download all the data available for their farm. There is no access or visibility to data of other livestock owners.

### Coordinator

Coordinators are entitled to view and download the aggregated data from the QS information letters on diagnostic data from slaughtering of the agricultural businesses they have bundled. Access to the raw data is granted to the coordinators if the livestock owner authorizes them in writing. If a coordinator instructs a sub-coordinator to discharge certain coordinator tasks, the sub-coordinator receives the coordinator's access rights. He is entitled to view and download the data of the agricultural businesses he has bundled. Access to the raw and aggregated data will only be granted to the sub-coordinator after an authorization by the livestock owner. Nevertheless, the coordinator as contractual partner of QS remains responsible for the implementation of the requirements.

### Veterinarians

Veterinarians receive access to the slaughter diagnostics data and the associated evaluations for all farms for which they are registered as veterinarian in the antibiotics database. It is not necessary for the veterinarian to be activated by the coordinator or livestock owner. This means that the veterinary profession has regular access to information on animal husbandry and animal health that is important for herd management. The technical implementation will take place soon.

### QS Qualität und Sicherheit GmbH

As scheme owner, QS has access to all data and evaluation results in the diagnostic database. Access to the data is restricted to individual authorized employees of QS.

QS will provide the operating company of the animal welfare initiative "Initiative Tierwohl" access to information that is defined for the implementation of the Animal Welfare Initiative in this respect.

The data in the diagnostic database can be made available to research establishments (e.g. universities, colleges, and Federal Institute for Risk Assessment (BfR)) for research projects and scientific evaluations in the field of animal welfare/animal health after pseudonymization while ensuring appropriate data protection.

## 5 Example pictures

### 5.1 Foot pads

The following pictures show different types of foot pad changes and the corresponding evaluations.

#### Broilers

Stage 0



Stage 1





Stage 2a



Stage 2b



**Turkeys**  
Score 0



Score 1



Score 2



Score 3



Score 4



**Ducks**  
Score 0



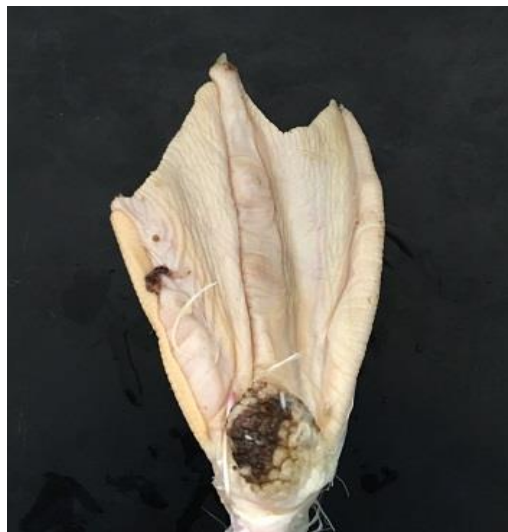
Score 1



Score 2



Score 3



Score 4

➔ More far-reaching changes of the paddles than those presented in Score 3 are to be classified in Score 4

## 5.2 Breast skin

### Rating A

Description:

- No abnormalities

Diagnostic:

- Intact chest skin
- No increase in circumference



### Rating B

Description:

- Button of diameter  $\leq 3$  cm with clear distinction

Diagnostic:

- Small increase of circumference
- With small ulcerous skin defect (so called button)



Description:

- Minor breast skin changes of diameter > 3 cm

Diagnostic:

- Small/minor increase of circumference
- Closed skin

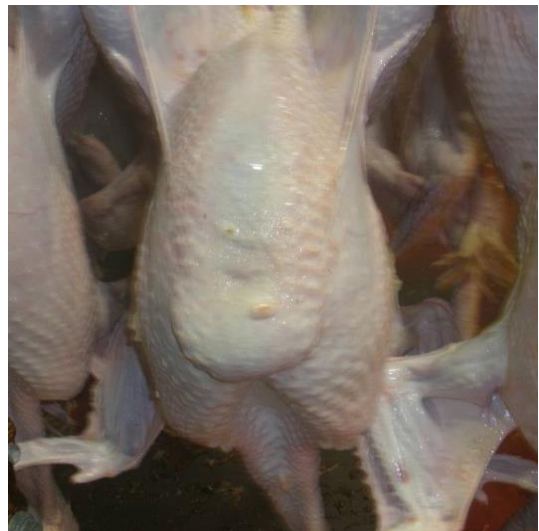


Description:

- Medium degree breast skin changes of diameter > 3 cm
- Depth 1 cm to 3,5 cm

Diagnostic:

- Medium degree breast skin changes of diameter > 3 cm
- Small color deviations
- Closed skin



**Rating C**

Description:

- High degree breast skin changes of diameter > 5 cm
- Depth above 3,5 cm

Diagnostic:

- High degree breast skin changes
- Color deviations
- Open skin



## Revision Information Version 01.01.2024

Criterion	Changes	Date of change
1 Fundamentals	<b>Clarification:</b> The collected diagnostic data can be used for evaluations as part of quality assurance.	01.01.2024
1.1 Responsibilities and scope 4 Data access	<b>Editorial change:</b> The wording was adjusted to standardize the guidelines for the monitoring programs.	01.01.2024
4 Data access	<b>Enhancement:</b> Veterinarians receive access to the diagnostic data and the associated evaluations for all farms under their responsibility.	01.01.2024

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