

Subject area "Food safety and consumer protection"

Working group "Teaching in the food hygiene subjects of the German-speaking countries"

Catalogue of Teaching & Learning Objectives

in Food, Meat and Dairy Hygiene in Germany, Austria and Switzerland

2023



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Tel.: 0641 984446-0
info@dvg.de
www.dvg.de

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Preamble

The henceforth 2nd edition of the „Catalogue of Teaching in Food-, Meat- and Dairy Hygiene in Germany, Austria and Switzerland“ was developed by the academic lecturers of these areas within the scope of the DVG Working Group „Lehre in den lebensmittelhygienischen Fächern der deutschsprachigen Länder“ (Teaching in Food, Meat and Dairy Hygiene in Germany, Austria and Switzerland) and reflects their **harmonised** perception. The knowledge which should be acquired during extramural practical trainings (as defined by the respective educational regulations) is not listed explicitly; however, the evaluation forms to review these practical trainings are included. Afterwards, the Day One Competences are listed.

Aims of the catalogue

With this catalogue the following objectives are pursued:

1. **Coordination** of teaching contents between the educational institutions and deduction of **learning outcomes**,
2. **Protection** of the objectively necessary **value** of the food hygiene subjects because of increasingly high demands that are made to the veterinary activities regarding hygienic consumer protection within veterinary sciences at universities and academies, and
3. Establishment of a basis for contribution of the German-speaking institutions on a **European perception** of the subject Veterinary Public Health.

The veterinary competence duties that are defined by European regulations include protection of consumers from health hazards as well as from being misled and deceived by food. To prepare students for the scopes of duty in the area of Veterinary Public Health that are associated therewith, and depicted in Figure 1, the content of the teaching catalogue which is considered to be necessary, is listed in detail below. Imparting of those contents will assure that graduates fulfill the requirements for official veterinarians as defined by Regulation (EU) 2019/624.

Food safety has to be assured at all stages of the production process based on the principle of divided responsibilities. This has to be taken into account since food originates from different sources (milk, meat, fish etc.) and the flows of commodities become more and more divers because of increasing globalization. Veterinarians are responsible for projection of the food chain starting at stables and ending with the food product. Besides the shown, reasonable constructed teaching content of the food hygiene professions this projection is also based on additional knowledge of other important subjects (i.e. anatomy, biochemistry, microbiology, pathology, parasitology, pharmacology, toxicology, clinical subjects). This catalogue provides the opportunity to these disciplines to identify easily connecting factors with regard to contents.

The FAO/WHO/OIE defines the duties and competences of Veterinary Medicine in the fields of Food Safety, Meat Hygiene, Milk Hygiene and Food Hygiene incorporated within the area of “Veterinary Public Health (VPH)” as follows:

- "The contributions to the physical, mental and social well-being of humans through an understanding and application of veterinary science".
- Veterinary public health contributes to public health through the knowledge, skills and resources of veterinary science.
- This generally relates to the understanding, prevention and control of zoonotic diseases and food safety issues.

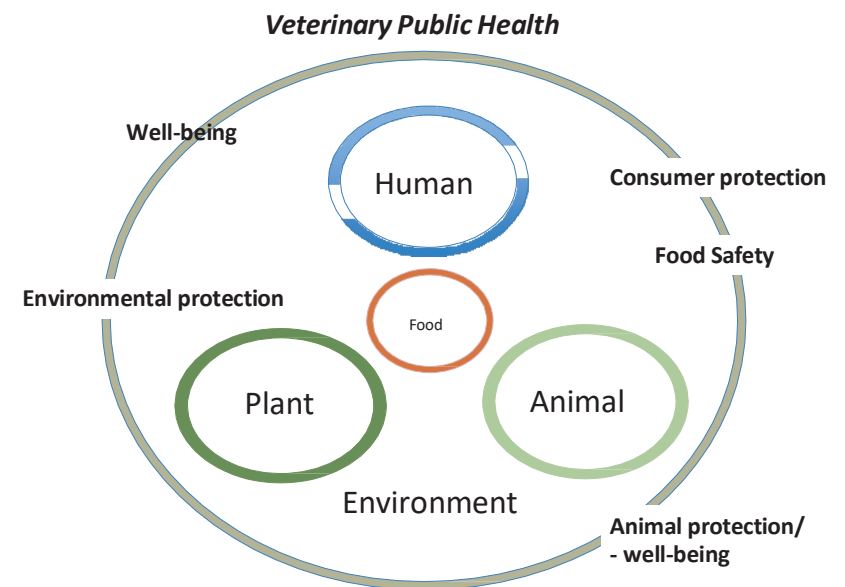


Figure 1 Scope of duties in the area of Veterinary Public Health

The mentioned teaching contents integrate into the „One Health Initiative“ - a global strategy for national and international cooperation of different disciplines to achieve an optimal health and welfare of humans, animals and environment.

Food Hygiene

A. Basic principles of food hygiene and technology

1. **Objectives, significance and historical development of food hygiene and its position within the area of Veterinary Public Health (VPH)**
2. **Organisation of food control**
 - Food control in Germany
 - Food control in the EU
 - Tasks of veterinarians in food control and in the food industry
3. **Food law (general)**
 - General principles of food law
 - principles of legislation
 - consumer protection policy of the EU
 - international trade law pertaining to food
 - basic requirements for the marketability of food
 - Horizontal legislation
 - Regulation (EC) No 178/2002, EU hygiene package and follow-up regulations
 - further relevant national and EU legal provisions
 - Food and Feed Code (LFGB)
 - Food Hygiene Regulation (LMHV)
 - Law for the Prevention of Infection (IfSG)
 - Legislation on product liability
 - Legislation on food labelling
 - Legislation on food additives
 - Basic principles of legislation on food supplements, genetically modified organisms and novel food
 - Legislation on residues and contaminants
4. **Quality and safety of food**
 - Quality concept, quality control, hygiene as quality factor
 - Generally accepted trade practice, German Food Code
 - Product liability, duty of care
 - Quality assurance, quality management
 - Food security
 - In-house control programmes
 - HACCP concept, risk analysis, risk assessment, risk communication
 - GMP/GHP
 - Hygiene requirements for food premises, processes and staff
 - Hygiene training of staff
 - Cleaning and disinfection

5. Basic principles of official food control

- Organisation of official controls, sampling
- Control of materials and articles intended to come into contact with foodstuffs
- Administrative jurisdiction and sanctioning options

6. Nutritive, pathophysiological and dietary aspects implicated in the consumption of food

7. Food microbiology

- Microorganisms in the food chain
 - ecology
 - natural presence in soil, water, animals and humans; biofilms
- Microbiological contamination of food
 - contamination processes (primary/secondary contamination, cross-, de-, recontamination)
 - sources of contamination
 - generation time, lag-phase, growth kinetics, sublethal damage
 - significance of bacterial counts
 - marker organisms, microbiological limits (food safety criteria, process hygiene criteria)
- Tenacity and factors influencing survival and inactivation of microorganisms
 - extrinsic/intrinsic factors
 - hurdle concept
 - predictive microbiology
- Selected characteristics of microorganisms
 - pathogenicity and virulence factors
 - toxin production
 - resistance properties
 - enzyme activity
- Starter and protective cultures, bio-conservation
- Pre- and probiotics

8. Biological hazards

- Zoonoses and zoonotic agents
- Food-borne pathogens
 - infection/intoxication/toxiinfection
 - epidemiology, pathogenesis, clinical symptoms, prophylaxis, virulence factors, pathogenic behaviour
 - pathogens: *Salmonella*, *Campylobacter*, *Staphylococcus aureus*, *Clostridium perfringens*, *Clostridium botulinum*, *Escherichia coli*/STEC/EHEC, *Listeria*, *Shigella*, *Yersinia*, *Vibrio*, *Bacillus cereus* etc.
- Viruses

- Protozoa
- Parasites
- Prions
- Mycotoxins
- Biogenicamines
- Natural toxins in food (toxic fish, shellfish poisoning)
- Monitoring and control of zoonoses (food-borne infections) in all stages of the food and feed chain
 - Directive 2003/99/EC on the monitoring of zoonoses and zoonotic agents
 - control programmes
 - outbreak investigations
- Food allergy, food intolerance
- Transmission of resistance genes

9. Chemical Hazards (residues and contaminants)

- Basic principles
 - sources
 - entry into the food chain
 - adverse effects on health
 - prophylaxis
 - control, monitoring
 - maximum residue limits
- Categories of substances
 - veterinary pharmaceuticals
 - pesticides
 - harmful substances originating from technological processes
 - migration/nanoparticles
- Environmental contamination

10. Food and feed additives

11. Food spoilage

- Microbiological spoilage
- Spoilage by original enzymes
- Spoilage by parasites and pests
- Chemico-physical causes of spoilage
- Principles of spoilage prevention

12. Food preservation

- Historical background
- Physical methods of preservation
- Chemical methods of preservation
- Biological methods of preservation
- Packaging

13. Ecological aspects of production and processing of food of animal origin (interaction food production and environment)

- Quality, safety and control of organic food
- Legislation on organic food

B. Product-specific food hygiene and technology, process control

In general, following issues apply for the below mentioned product groups (A-H):

1. Product-specific legislation

2. Nutritional significance

3. Product range

- Terminology, definitions, generally accepted trade practice, presentations, quality characteristics
- Labelling and packaging if applicable
- Composition
- Technology
- Microbiology
- Changes (spoilage, defects, deceit)
- Process control (health risks, CCP)

A. Meat as raw material (poultry, horse, cattle, goat, sheep, game, pork, ostrich, rabbit meat)

B. Fats

C. Meat and meat products (minced meat/minced meat products, cured and smoked meat products, sausages, delicatessen/meat-containing dishes, poultry meat products, canned food)

D. Eggs and egg products

E. Fish and fishery products (frozen, salted, fried, cooked, smoked fish, marinades, caviar, semi-preserved and preserved products)

F. Crustaceans and molluscs

G. Honey

H. Food of plant origin

C. Practical course on food analysis

1. Basic principles

- Product knowledge of the mentioned product groups
- Sensory evaluation
- Chemical methods of analysis (fat, protein, moisture, connective tissue ...)
- Microbiological methods of analysis and serological diagnosis of zoonotic agents
- Rapid methods
- Analysis of residues
- Gravimetry, histological analysis, immunological methods
- Animal species differentiation

2. Analysis of following product groups and interpretation of results, preparation of test reports including evaluation based on food law

- Meat of all species
- Fats
- Minced meat
- Cured and smoked meat
- Sausages
- Meat delicatessen/ready-to-eat products
- Canned food
- Deep-frozen products
- Fish, fishery products
- Crustaceans and molluscs
- Eggs
- Convenience, Fast Food
- Spices
- Honey
- Further products (i.e. plant food)

Meat Hygiene

A. Basic principles

1. Objectives and aims of meat hygiene

- Historical background
- Tasks of veterinarians associated with Veterinary Public Health and the food chain for meat: animal welfare, consumer protection, environmental protection, ante- and post-mortem inspection, audits of good hygiene practices, epizootics

2. Basic principles of meat hygiene (also compare food and milk hygiene and other disciplines of veterinary medicine)

- Basic principles of international agricultural policy, Common Agricultural Policy of the EU, WTO, SPS, Codex Alimentarius, OIE
- Quality management in agricultural practice
- Basic principles of meat processing and technology
- Basic principles, concepts and methods of good manufacturing practice and quality management in the meat sector as well as risk analysis and HACCP
- Prevention/reduction of risks to human health via meat consumption including basic epidemiological principles, monitoring and surveillance systems
- Assurance of animal welfare from transport to after bleeding

3. Hygiene and technology of meat production

- Organisation of hygiene controls in meat production and processing
- Tasks of slaughterhouses and meat processing establishments
- Structural, operational and hygiene requirements for slaughterhouses and meat processing establishments
- Transportation of slaughter animals
 - pre-transport handling, transport of slaughter animals (moving, loading, rest periods), animal welfare
 - influences on meat quality
- Animal welfare
- Meat production technology
 - slaughter lines: cattle, pig, small ruminants, horses, poultry, rabbits
 - methods of stunning, detection and measures in case of improper stunning, shechita
 - chilling and freezing technology, storage, thawing
 - meat transport
 - by-products
 - post-mortem changes (meat quality and maturation)
 - classification of carcasses, cutting, meat cuts
- Hygiene management in meat production
 - decontamination procedures
 - responsibilities of the food business operator
 - food business operators own checks, official control

- minimum requirements for staff hygiene, rooms, facilities and equipment
- process control (health risks, CCP)

4. European and national meat hygiene legislation

- Legislation on veterinary medicine aspects of health protection food safety, animal health, animal welfare and medicinal products, especially
 - Regulation (EC) No 178/2002 und EU hygiene package along with implementation regulations (national legislation on meat hygiene [e.g. Food Hygiene Regulation on Food of Animal Origin, general administrative regulation])
- Adjoining legislation, especially on
 - animal welfare and epizootics, disposal of offal, animal by-products, TSE, environment

5. Ante-mortem and post-mortem inspection

- Basic principles
 - responsibilities of the food business operator
 - food chain information
 - official veterinarian, approved veterinarian, official auxiliary, internal personnel; professional qualification and education
 - methods of examination
 - principles of assessment
- Worker protection, environmental protection
- Special forms of slaughter (such as emergency, domestic, ritual slaughter)
- Ante-mortem inspection
 - ante-mortem inspection at the holding farms
 - control of animal transport
 - ante-mortem inspection at the slaughterhouse
 - decisions after ante-mortem inspection (e.g. prohibition of slaughter, measures concerning animal welfare)
- Post-mortem inspection
 - post-mortem inspection procedures: cattle, swine, sheep, goats, horses, poultry, rabbits
 - risk-based post-mortem inspection
 - standard inspection procedure, visual inspection
 - extended inspection, inspection in the event of doubt
 - conditions for meat inspection, minimum inspection time
- Further official tests
 - principles and diagnostic application of current tests in meat hygiene
 - examination for *Trichinella* in meat
 - microbiological/bacteriological examinations
 - antibiotic susceptibility testing and examinations on residues and contaminants
 - examinations for defects in meat quality
- Findings of ante-mortem and post-mortem inspections
 - infectious diseases (zoonoses, epizootics, bacteremia, septicemia)
 - parasitoses in slaughter animals
 - residues and contaminants in meat
 - changes in meat quality
 - technopathies

- Decisions and measures after post-mortem inspection
 - basic principles
 - examples (e.g. trichinellosis, cysticercosis, tuberculosis, findings of further tests)
 - health marking (according to EU and national rules)
- Documentation, records, communication of inspection results
 - information and communication technology
 - meat inspection statistics
 - monitoring and surveillance systems
- Disposal of animal by-products not intended for human consumption (category 1, 2 and 3)

6. Game meat, farmed game

- Legislation
 - national and European legal provisions concerning hygienic and hunting of wild animals (e.g. Federal Hunting Act)
- Economic, hygienic and nutritional significance of game meat
- Hunting (wildlife management, wild game species, appropriation, hunting methods, closed seasons)
- Handling after killing
- Official inspections (wild game, farmed game)
- Diseases of game
- Hygiene and critical points in production of game meat

7. Import and export of meat

- Internal market
- Third countries, import controls

8. Quality meat programs

9. Quality assurance systems in meat production enterprises

B. Practical courses, demonstrations

1. Inspection of food chain information and ante-mortem inspection
2. Practical post-mortem inspection (cattle, swine, poultry, if appl. horses, small ruminants, rabbits, game) including assessment of findings
3. Examination for *Trichinella*
4. Bacteriological examinations, antibiotic susceptibility testing
5. Additional examinations based on AVV LmH
6. Carcass cutting (primal/further cutting)
7. Process hygiene, control of cleaning and disinfection
8. Preparation of test reports

Dairy Hygiene

A. Basic principles

1. Structures of dairy industry

- Economic impact of production and processing of milk on national and international markets
- Principles of national, internal and international policies in agriculture (milk associations, Codex Alimentarius etc.)
- Marketing (incl. direct marketing, organic sector)
- Veterinary responsibilities

2. Regulations (see also Food Hygiene)

- Regulation (EC) No 178/2002 and German Food and Feed Code (LFGB)
- EU hygiene package
- product-specific regulations

3. GHP conditions and QS systems

- QM
- HACCP
- DIN ISO 22000

B. Milk production

1. Anatomical and physiological basics

2. Milk synthesis and composition

- Synthesis and composition of major compounds
 - water, proteins and other nitrogenous substances, lipids, carbohydrates
 - minerals, trace elements, vitamins, enzymes
- Milk of other species (sheep, goat, buffalo, horse)
- Factors influencing milk production, composition and technological properties
- Nutritional and technological significance of the compounds

3. Milking technology

- Manual milking
- Machine milking
 - design of the cluster
 - milking systems (small bucket, pipe milking system, milking parlour, milking robots)
 - control milking technique
 - hygiene of milking

- Milking and mastitis
 - milking problems
 - definition of mastitis (IDF) and mastitis causing agents
 - influence on milk quality

4. Cooling

- Regulations
- Techniques

5. Cleaning and disinfection

- Substances and mode of action
- Procedures of cleaning and disinfection

6. Quality of raw milk

- Requirements from EU and national legislation
 - hygienic requirements for raw milk production
 - hygienic requirements for dairies
 - criteria for raw milk (e.g. Rohmilchgüte-VO)
- Microbiology
 - initial und secondary contamination microbiota
 - pathogenic microorganisms
 - spoilage microorganisms
- Residues and contaminants
 - causes and contamination levels
 - detection methods
 - measures of consumer protection

C. Hygiene and technology of milk processing

In general, following issues apply for the below mentioned product groups (A-C):

1. Product-specific legislation
2. Nutritional significance
3. Product range
 - Terminology, definitions, generally accepted trade practice, presentations, quality characteristics
 - Labelling and packaging if applicable
 - Composition
 - Technology
 - Microbiology
 - Changes (spoilage, defects, deceit)
 - Process control (health risks, CCP)

A. Raw milk (milk available at farms, attested milk)

B. Heat-treated milk (Sterilization, UHT, pasteurized milk)

C. Milk products

- Cream products
- Preserved products
- Fermented products
- Mixed products
- Butter and milk fat spreads
- Cheese and whey
- Ice and desserts
- Milk protein products, lactose products, milk fat products

D. Practical courses

1. Basic principles:

- Sampling
- Product knowledge (raw and heat-treated milk, milk products)
- Sensory evaluation
- Rapid methods (density, freezing point, actual and potential acidity, electrical conductivity, verification of heat treatment)
- Microbiological methods of analysis
- Cytological analysis
- Chemical analysis
- Detection of antibiotics

2. Analysis of following product groups and interpretation of results, preparation of test reports including evaluation based on food law

- raw and heat-treated consumers' milk
- milk products

Explanatory notes

All those issues shall be regulated by the individual educational institutions or the respective professionals at their own discretions; there is no demand for unification. Where overlapping of items could not be avoided between focuses of this catalogue and teachers are free to connect these since content linkage cannot be shown here. They may also offer further facultative courses.

The catalogue **does not** contain any indications regarding extend of lessons, relation of lectures and practical courses or seminars or regarding any other didactical kinds for imparting the contents. Further, it is **not** intended to indicate the timing or allocation of chapters to specific semesters or to one of the three mentioned subjects.

This catalogue is **not** intended to prejudice or favour any structures represented in the single professions at the universities and faculties.

To avoid redundancies, basic principles like food law, spoilage processes, etc. are mainly allocated in the food hygiene subject which is, therefore, the most comprehensive chapter of this catalogue.

Internship evaluation forms



Evaluation of internships (practical trainings)

Dear Colleague,

On behalf of the representatives of the veterinary medical schools in Germany, I would like to thank you for taking on the supervision of a trainee. In doing so, you are providing us with very important support in the veterinary education of our students and we consider it an expression of collegiality in the best sense of the word when you take on this additional effort.

The background to this request for an evaluation is the demand of the E.A.E.V.E. (European Association for Establishments of Veterinary Education) for the fulfilment of quality assurance measures in Veterinary Medicine curriculum in all member states of the EU. This also includes the evaluation of internships - both those in the clinical area and the food-related internships.

Please note that the following evaluation forms are a list of possibilities - giving students and trainers on site an overview of what they can expect in the internship and what can be taught. The forms serve as a status check and also as feedback so that, if necessary, contents can be dealt with more intensively in the veterinary medical schools. Depending on the internship institution, the points listed here may only be partially fulfilled.

We also need feedback from you as the trainee's supervisor. This form will be given to you by the students. Please fill it out at the end of the internship and give it to the trainee in a closed envelope.

Based on the coordination with the university teachers of the food subjects of all five German veterinary medical schools, it was decided to introduce the evaluation according to these questionnaires uniformly throughout Germany.

We would also be very pleased to receive any suggestions or additional comments.

Thank you in advance for your assistance!

Sincerely yours

Prof. Dr. P.G. Braun
Institute Director and Chair of the DVG Working Group "Teaching in Food, Meat, Dairy Hygiene in Germany, Austria and Switzerland"

01. January 2023

Universität Leipzig
Veterinärmedizinische Fakultät
Zentrum für Veterinary Public Health
Institut für Lebensmittelhygiene
An den Tierkliniken 1
04103 Leipzig

Telefon
+49 341 97-38 220

Fax
+49 341 97-38 249

E-Mail
lemisek@vetmed.uni-leipzig.de

Web
<http://lebensmittelhygiene.vetmed.uni-leipzig.de/>

Postfach intern
252101

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Evaluation sheet

for the practical training „Controlling and examination of food“
regarding to § 55 (1) and § 56 (1) of the Tierärztliche Approbationsverordnung (TAppV)

To complete by the student, countersign by the veterinary training supervisor

Surname, first name of the student:

Training period: from until

Training site:

Please paint completely the appropriate circles and include comments at the end if applicable.

A) Hygiene Control (primarily to be completed if training is carried out in a Vet. Office)

- 1 Acquainting with self-check measures of operators for controlling the hygiene status and official control, incl. HACCP ☐
- 2 Participation in operational inspections (e.g., treatment/processing plant, wholesale and retail, restaurants, markets), including assessment of the hygienic condition of premises and equipment ☐
- 3 Assessment of the technologies used by the operations (e.g., slaughtering, processing, refrigeration, storage, kitchen) ☐
- 4 Participation and assistance in hygiene training of the operating personnel, control of record books in accordance with the Infection Protection Act (IfSG) ☐
- 5 Acquainting with focus aspects of hygiene controls e.g.,
 - 5.1 personnel hygiene, personnel traffic. ☐
 - 5.2 black-and-white principle ☐
 - 5.3 cleaning, disinfection. ☐
 - 5.4 pest control..... ☐
 - 5.5 hygienic requirements for buildings, incl. equipment, machines. ☐
 - 5.6 process controls incl. temperature regime..... ☐
 - 5.7 control of goods receipt..... ☐
 - 5.8 quality assurance systems in operations (certification). ☐
 - 5.9 others*..... ☐
- 6 Registration and correction of deficiencies (requirements, fines, etc.) ☐
- 7 Performance of basic methods of hygiene control, e.g., control of the cleaning and disinfection success, temperature measurements ☐
- 8 Risk assessment in the manufacturing process and identification of potential health hazards..... ☐
- 9 Autonomously preparing an assessment of the operational hygiene of a control object on a scientific basis..... ☐
- 10 Study of records on hygiene controls, inspections, etc. ☐
- 11 In-depth study of relevant legislation..... ☐
- 12 Closing meeting..... ☐

Evaluation sheet

2

for the practical training „Controlling and examination of food“
regarding to § 55 (1) and § 56 (1) of the Tierärztliche Approbationsverordnung (TAppV)

Surname, first name of the student:

B) Food examination (primarily to be completed if the training is carried out in a Food Testing Laboratory)

- 1 Acquainting with structure and tasks of the training site..... ☐
- 2 Acquainting with tasks of the quality assurance manager of an operation/
laboratory ☐
- 3 Examination
 - 3.1 Organisation and execution of sampling ☐
 - 3.2 Total Viable Count ☐
 - 3.3 Selective detection of bacteria (please specify in the comments section) ☐
 - 3.4 Chemical analyses (e.g., crude protein, hydroxyproline, fat content, solids,
water content (please specify in the comments section) ☐
 - 3.5 pH-value, water activity, sodium chloride ☐
 - 3.6 Additives (e.g., nitrite, phosphate, glutamate) ☐
 - 3.7 Residues..... ☐
 - 3.8 Sensory evaluation incl. product knowledge ☐
 - 3.9 Working with legal regulations incl. guidelines (Leitsätze, Deutsches
Lebensmittelbuch) ☐
 - 3.10 Gravimetry ☐
 - 3.11 Histology ☐
 - 3.12 Working with the certified methods according to § 64 LFGB ☐
 - 3.13 Checking for legally compliant labeling and compliance with other
regulations ☐
 - 3.14 Documentation of test results..... ☐
 - 3.15 Autonomously preparing an assessment of the marketability of a food on
a scientific basis..... ☐
 - 3.16 Examinations within the framework of food monitoring or residue control
plan ☐
 - 3.17 others* ☐
- 4 Controlling
 - 4.1 Participation in fine proceedings, if applicable trials ☐
 - 4.2 Food hygienic border controls ☐

Evaluation sheet

3

for the practical training „Controlling and examination of food“
regarding to § 55 (1) and § 56 (1) of the Tierärztliche Approbationsverordnung (TAppV)

Surname, first name of the student:

- 4.3 Accreditation of food research laboratories or certification of food
companies ☐
- 4.4 Outbreak investigation (reporting process, co-operation with health
authorities, epidemiological examinations, etc.)..... ☐
- 5 Time to increase knowledge, literature studies..... ☐
- 6 Closing meeting ☐

* Comments/Suggestions:

.....
Date Student Veterinary training supervisor

Evaluation sheet

1

for the practical training „Veterinary Public Health“
regarding to § 61 and § 62 (1) of the Tierärztliche Approbationsverordnung (TAppV)

To complete by the student, countersign by the veterinary training supervisor

Surname, first name of the student:

Training period: from until

Training site:

Please paint completely the appropriate circles and include comments at the end if applicable.

- 1 Acquaintance with the structure and tasks of a Veterinary Office incl. the legal basis..... ☐
- 2 Familiarization with relevant legislation ☐

A) Area of responsibility: Food control

- 3 Execution of site inspections (agricultural companies, processing plants, retailers)..... ☐
- 4 Official control of production hygiene ☐
- 5 Acquaintance with the structure and tasks of further institutions which are entrusted with food control in cooperation with the Veterinary Office (e.g., Inspection Offices, Milk Testing Center [Milchprüfing], Animal Health Service, etc.) ☐
- 6 Identifying shortcomings/deficiencies and ways of correction (assistance in issuing obligations, fines, etc.) ☐

B) Area of responsibility: Animal welfare

- 7 Assistance in the official control of animal husbandry facilities (pet shops, circuses, animal shelters, farms, slaughterhouses, animal transports)..... ☐
- 8 Assistance in the inspection of animal husbandry in public institutions or at private individuals on species-appropriate husbandry..... ☐
- 9 Assistance in investigations and sanctioning of violations of the Animal Welfare Act..... ☐
- 10 Acquaintance with the conduct of competence assessments (e.g., for running a pet shop or for slaughtering activities)..... ☐
- 11 Assistance in the enforcement of the regulations on harmful dogs ☐
- 12 Assistance in the processing of notifications and applications for the approval of animal trials; control and approval of laboratory animal husbandries ☐
- 13 Participation in cross-compliance (CC) controls ☐

C: Area of responsibility: Animal disease control and animal rendering

Acquaintance with

- 14 control measures against important zoonoses (salmonellosis, EHEC, psittacosis) ☐
- 15 control measures against animal diseases (swine fever, foot-and-mouth disease); compensation, processing of applications for subsidies..... ☐
- 16 the working procedures in a rendering plant ☐

Evaluation sheet

2

for the practical training „Veterinary Public Health“
regarding to § 61 and § 62 (1) of the Tierärztliche Approbationsverordnung (TAppV)

Surname, first name of the student:

- 17 the Animal Disease Reporting System (Tierseuchen-Nachrichtensystem - TSN) ☐
- 18 the execution of voluntary control procedures (animal disease funds) ☐
- 19 the work with TRACES (import, export, transfer of animals or animal products)..... ☐
- 20 the control of livestock (Livestock Transport Ordinance [Viehverkehrs-VO], Pig Keeping Ordinance [Schweinehaltungs-VO] etc.) ☐
- 21 the issuing of official veterinary health certificates..... ☐

D) Area of responsibility: Control of veterinary pharmaceuticals

- 22 Assistance in the control of the market of veterinary medicinal products..... ☐
- 23 Coordinate routine random sampling to prevent antibiotic residues in food products ☐
- 24 Assistance in the control of veterinary in-house pharmacies ☐
- 25 Assistance in the control of production and trade of veterinary pharmaceuticals ☐
- 26 Assistance with occasion-related pharmaceutical law inspections in agricultural companies..... ☐

E) Others

- 27 Acquaintance with control measures for cosmetics and other consumer goods..... ☐
- 28 Closing meeting..... ☐

* Comments/Suggestions:

.....
Date

.....
Student

.....
Veterinary training supervisor

Evaluation Sheet					
for the practical course “ante-mortem and post-mortem inspection” according to § 55 (2 and 3) and § 56 (2) of the Tierärztliche Approbationsverordnung (TAppV)					
To be completed by the student, countersigned at the end of the evaluation form by the veterinarian providing the training					
Surname, first name of the student: _____					
Training period: from _____ to _____					
Training site: _____ Stamp: _____					
Please mark an answer in the following way: ☉ If you wish to correct an answer, fill in the wrongly marked circle, like this: ●					
Activity	explained	viewed	carried out under supervision/ with assistance	performed independently	none of the previous answers
1. General and ante-mortem examinations					
1.1 Species slaughtered					
Bovine (approx. number slaughtered per week: _____)	n/a	n/a	n/a	n/a	n/a
Pigs (approx. number slaughtered per week: _____)	n/a	n/a	n/a	n/a	n/a
Other species, please specify: _____	n/a	n/a	n/a	n/a	n/a
1.2 Conduct of ante-mortem inspection					
In the slaughterhouse	○	○	○	○	○
At the holding of provenance	○	○	○	○	○
For home slaughter	○	○	○	○	○
For Game Reserve	○	○	○	○	○
1.3 Transport					
Monitoring of animal transport and unloading	○	○	○	○	○
1.4 Ante-mortem inspection					
Animal health assessment	○	○	○	○	○
Animal welfare assessment	○	○	○	○	○
Examination of welfare problems	○	○	○	○	○
Implementation of measures in case of deficits (animal health/welfare)	○	○	○	○	○
1.5 Cleanliness of animals					
Evaluation of the cleanliness of the animals	○	○	○	○	○
1.6 Food chain information					
Evaluation of the food chain information	○	○	○	○	○
1.7 Animal health rules					
Implementation of animal health rules	○	○	○	○	○
1.8 Decisions on the fitness for slaughter based on cases or case studies					
Processing of decisions on the fitness for slaughter based on cases or case studies	○	○	○	○	○
1.9 Animal welfare (monitoring of operational policies and implementation of official actions)					
Handling of diseased or injured animals and animals not fit for transport or for slaughter	○	○	○	○	○
Monitoring: waiting pen, race, restraint, stunning techniques, stunning, Checks on stunning, bleeding	○	○	○	○	○
Control of the observance of operational standard operating procedures through operating staff	○	○	○	○	○
Monitoring of operational measures in case of violations of animal welfare (e.g. incorrect stunning, insufficient bleeding)	○	○	○	○	○
Implementation of official measures in the event of infringements (documentation of findings, potential sampling, preservation of evidence)	○	○	○	○	○
2. Post-mortem inspections					
2.1 Bovine					
Bovine: work at slaughter line	○	○	○	○	○
Bovine: individual animal (suspected case)	○	○	○	○	○

Activity	explained	viewed	carried out under supervision/ with assistance	performed independently	none of the previous answers
2.2 Pig					
Pig: work at slaughter line	○	○	○	○	○
Pig: individual animal (suspected case)	○	○	○	○	○
2.3 Other species: please specify					
Animal species: _____ work at slaughter line	○	○	○	○	○
Animal species: _____ individual animal (suspected case)	○	○	○	○	○
2.4 Trichinella examination					
Sampling	○	○	○	○	○
Processing of samples	○	○	○	○	○
Diagnostics/microscopy	○	○	○	○	○
2.5 Bacteriological examination					
Organization and documentation	○	○	○	○	○
Sampling	○	○	○	○	○
Processing of samples in the laboratory	○	○	○	○	○
Diagnostics	○	○	○	○	○
2.6 Residue testing					
Organization and documentation	○	○	○	○	○
Sampling	○	○	○	○	○
2.7 Further testing					
pH value measurement	○	○	○	○	○
Test for the measurement of odor deviation (hot-water/fat melt-out)	○	○	○	○	○
Other, please specify: _____	○	○	○	○	○
2.8 Discussion of findings					
Ante-mortem inspection	○	○	○	○	○
Post-mortem inspection	○	○	○	○	○
Bacteriological examination	○	○	○	○	○
Further laboratory tests	○	○	○	○	○
2.9 Disposal					
Classification of animal by-products in categories I, II, III	○	○	○	○	○
2.10 Documentation and communication of meat hygiene findings and decisions					
Documentation and communication of official findings and decisions	○	○	○	○	○
Documentation and communication of animal welfare relevant findings for an individual animal	○	○	○	○	○
3. Construction of the slaughterhouse and slaughter technology					
3.1 Structural facilities and equipment					
Evaluation of the structural facilities and equipment in the slaughterhouse on hygiene aspects	○	○	○	○	○
Evaluation of the structural facilities and equipment in the slaughterhouse welfare-wise	○	○	○	○	○
3.2 Evaluation of other processes of slaughtering and processing					
Intestinal processing	○	○	n/a	n/a	○
Classification	○	○	n/a	n/a	○
Weighing	○	○	n/a	n/a	○
Cutting	○	○	n/a	n/a	○
Processing	○	○	n/a	n/a	○
Cooling	○	○	n/a	n/a	○
Freezing	○	○	n/a	n/a	○
Food transport	○	○	n/a	n/a	○
Animal by-products (control of disposal or further processing)	○	○	n/a	n/a	○

Activity	explained	viewed	carried out under supervision/ with assistance	performed independently	none of the previous answers
4. Carrying out hygiene monitoring during and after slaughter process with regard to...					
The rooms	0	0	0	0	0
The furnishing	0	0	0	0	0
Personnel hygiene	0	0	0	0	0
Process hygiene (sampling, result evaluation, interventions if necessary)	0	0	0	0	0
5. Enforcement measures taken by the authority					
On food hygiene law	0	0	0	n/a	0
On animal protection law (orders, administrative offences and criminal proceedings)	0	0	0	n/a	0
To other areas of law (e.g. animal by-products, transmissible animal diseases, occupational health and safety):	0	0	0	n/a	0
6. Other activities of the official veterinarian					
Control of animal welfare standard operation procedures (document control)	0	0	0	0	0
Control of the operational monitoring procedure for stunning (document control) and direct checks of stunning operations	0	0	0	0	0
Monitoring of the implementation of animal welfare legislation	0	0	0	0	0
EU controls	0	0	n/a	n/a	0
7. Import inspections					
Import inspection: document control	0	0	0	0	0
8. Final interview					
	conducted	not conducted			
Final interview	0	0			

Commentes/Suggetions:

Date Student Veterinary training supervisor

Evaluation Sheet

To complete by the student

for the practical training (Please paint completely the appropriate circles.)

O „Veterinary Public Health“ according to § 61 and § 62 (1)

O „Ante-mortem and post-mortem inspection“ according to §52 (2 a. 3) and §56 (2)

O „Controlling and examination of food“ according to §55 (1) and §56 (1)

of the Tierärztliche Approbationsverordnung (TAppV)

Training period: from till

	1	2	3	4
1. The mentoring on site was good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. My theoretical preparation for the training was sufficient.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I was prepared sufficiently by the University for the training.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The training site provided literature for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The training site offered enough sufficient possibilities to finalise the provided priorities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The length of the training was sufficient to perform the provided tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The training made high demands on me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The training was helpful to increase my theoretical knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Because of this training I got interest for a job in this field in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments/Suggestions:

Legend
1 – it is the case 2 – it may be the case 3 – it may not be the case 4 – it is not the case

Evaluation Sheet

To complete by the veterinary training supervisor
Return in sealed envelope

for the practical training (Please paint completely the appropriate circles.)

- ☐ „Veterinary Public Health“ according to § 61 and § 62 (1)
☐ „Ante-mortem and post-mortem inspection“ according to §52 (2 a. 3) and §56 (2)
☐ „Controlling and examination of food“ according to §55 (1) and §56 (1)
of the Tierärztliche Approbationsverordnung (TAppV)

Training period: from till

	1	2	3	4
1. The University knowledge of the student was good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The motivation of the student for the training was good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The student had sufficient time and possibilities to acquire and increase its subject-specific theoretical knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The student had sufficient time and possibilities to acquire and improve its subject-specific practical skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The student used effectively the available time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The student could be motivated for a future veterinary job in this specific field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments/Suggestions:

	Legend 1 – it is the case 2 – it may be the case 3 – it may not be the case 4 – it is not the case
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Learning outcomes - Day One Competences

Food Hygiene

The aim is to impart knowledge to the cognitive as well as to the affective domain and to impart psychomotor skills in the following fields:

	Catalogue of Teaching, Section Food Hygiene pp. 3-7 (EAEVE Day One Competence)
Basic principles of Food Hygiene	
• Organisation and principles of the (official) food control	A1, A2, A5 (1.1, 1.2, 1.4, 2.10)
• Tasks of veterinarians associated with the (official) food control	A2, A5 (1.4, 1.10)
• Composition and characteristics of food products	A6, A10, B 1-3 (A-H)
• Food (Hygiene) law and overarching legislation	A3, A5, A13, B1 (1.4, 1.8)
• Microbiological, chemical and physical hazards associated with food products	A4, A7, A8, A9, A11, A13, B1-B3 (A-H) (1.24, 2.9, 2.10)
Underpinning knowledge	
• Processing, preservation methods, risk reducing strategies	A12, B3 (2.10)
• Quality management and quality assurance systems (e.g. own checks of food businesses, HACCP systems, GMP/GHP)	A4, B3 (1.1, 1.3, 1.4)
• Product-related aspects of food hygiene and technology	B 1-3 (A-H) (1.35)
• Diagnostic methods in food hygiene	C1, C2 (1.21, 1.22, 1.35)
• Monitoring and surveillance systems, epidemiological tools for the analysis of outbreaks	A5, A8 (1.10, 2.9, 2.10, 2.11)

Practical skills / hard skills	C (A) as well as evaluation forms for practical courses
Complete representation of the examination procedure	
• Sampling, transport of samples, control of incoming samples	A5, C1 (1.21, 1.28, 1.29)
• Evaluation of packaging and labelling	A3, B3, C2 (1.8, 1.35)
• Determination of examination criteria and diagnostic tests	A7, C1 (1.21, 1.22)
• Sensory examination of food products, conducting of standard laboratory examinations	C1, C2 (1.28, 1.29, 1.35)
• Assessment and rating of sensory, microbiological, chemical, physical and histological findings from food products	C2 (1.24, 1.35)
• Preparing a legal report for a food product including assessment according to the food law	A3, B1, C2 (1.4, 1.6, 1.21)
Professional/personal skills, soft skills	
• Interdisciplinary thinking	A-C (1.13, 1.4, 1.6, 1.8, 2.11)
• Adaptation to changes in legislation	
• Sense of responsibility	
• Interpretation of findings	
• Setting priorities	
• Lifelong learning	
• Communication	

Meat Hygiene

The aim is to impart knowledge to the cognitive, as well as to the affective domain and to impart psychomotor skills in the following fields:

	Catalogue of Teaching, Section Meat Hygiene pp. 8-11 (EAEVE Day One Competence)
Basic principles of Meat Hygiene	
• Organisation and principles of hygiene controls in meat production	A1, A2 (2.10)
• Tasks of veterinarians associated with the meat chain	A1, A2, A4, A5 (1.10)
• Principles of meat production	A2, A3, A6
• Animal welfare and animal protection	A3, A5, A6 (1.34)
• Meat (Hygiene) law and overarching legislation	A4, A6 (2.7)
Underpinning knowledge	
• International agricultural policy and common EU agricultural policy and law	A2, A4, A7 (1.10)
• Husbandry conditions, transportation of slaughter animals, stunning/killing	A3, A5, A6, B1 (2.7)
• Technology of meat production	A3, A6, B1, B6 (2.10)
• Hygiene of meat production	A3, A4, A6, B7 (1.35)
• Quality management and quality assurance systems (e. g. self-controls of food businesses, HACCP, GMP/GHP)	A2, A3, A6, A8, A9, B7 (1.3)
• Diagnostic methods in meat hygiene	A5, B3, B4, B5, B7 (1.21)
• Monitoring and surveillance systems and epidemiological tools in analysis of outbreaks	A2, A3, A9 (1.10, 2.10)

Practical skills / hard skills	A/B as well as evaluation forms for practical courses
Complete representation of ante- and post-mortem inspection	
• Check of food chain information	A5, B1 (1.34)
• Ante-mortem inspection	A5, A6, B1 (1.24, 1.34)
• Post-mortem inspection	A5, A6, B2 (1.24)
• Examination for <i>Trichinella</i>	A5, A6, B3 (1.24)
• Bacteriological examinations and antibiotic susceptibility testing	A5, B4 (1.24)
• Further official laboratory tests	A5, B5 (1.21)
• Assessment and rating of findings of ante- and post-mortem inspections	A5, B2 (1.24)
• Decisions and actions after post-mortem inspection	A5, B8 (1.24)
Professional/personal skills, soft skills	
• Interdisciplinary thinking	A-B (1.13, 1.4, 1.6, 1.8, 2.11)
• Adaptation to changes in legislation	
• Sense of responsibility	
• Interpretation of findings	
• Setting priorities	
• Lifelong learning	
• Communication	

Dairy Hygiene

The aim is to impart knowledge to the cognitive, as well as to the affective domain and to impart psychomotor skills in the following fields:

	Catalogue of Teaching, Section Dairy Hygiene pp. 12-15 (EAEVE Day One Competence)
Basic principles of Dairy Hygiene	
<ul style="list-style-type: none"> Organisation of dairying and tasks of veterinarians associated with the (official) control of milk and milk products 	A1, A2 (1.1, 1.2, 1.4, 2.10)
<ul style="list-style-type: none"> Composition and characteristics of milk and milk products 	B1, B2, B6, C 1-3 (A-C)
<ul style="list-style-type: none"> Microbiological, chemical and physical hazards associated with milk and milk products 	B3, B6, C3 (A-C) (1.24, 2.9, 2.10)
<ul style="list-style-type: none"> Dairy (Hygiene) law and overarching legislation 	A2 (1.4, 1.8)
Underpinning knowledge	
<ul style="list-style-type: none"> Processing, preservation methods, risk reducing strategies 	B3, B4, B5, C3 (2.10)
<ul style="list-style-type: none"> Quality management and quality assurance systems (e.g. own checks of food businesses, HACCP systems, GMP/GHP) 	A3, C3 (1.1, 1.3, 1.4)
<ul style="list-style-type: none"> Product-related aspects of dairy hygiene and technology 	C 1-3 (A-C) (1.35)
<ul style="list-style-type: none"> Diagnostic methods in dairy hygiene 	B6, D (1.21, 1.22, 1.35)
<ul style="list-style-type: none"> Monitoring and surveillance systems, epidemiological tools for the analysis of outbreaks 	A3 and part A8 from Food Hygiene (1.10, 2.0, 2.10, 2.11)

Practical skills / hard skills	D/A as well as evaluation forms for practical courses
Complete representation of the examination procedure	
<ul style="list-style-type: none"> Sampling, transport of samples, control of incoming samples 	D1 and part A5 from Food Hygiene (1.21, 1.28, 1.29)
<ul style="list-style-type: none"> Evaluation of packaging and labelling 	A2, C3, D2 (1.8, 1.35)
<ul style="list-style-type: none"> Determination of examination criteria and diagnostic tests 	D1 (1.21, 1.22)
<ul style="list-style-type: none"> Sensory examination of food products, conducting of standard laboratory examinations 	D1, D2 (1.28, 1.29, 1.35)
<ul style="list-style-type: none"> Assessment and rating of sensory, microbiological, chemical, physical and histological findings from milk/milk products 	D2 (1.24, 1.35)
<ul style="list-style-type: none"> Preparing a legal report for a milk/milk product including assessment according to the food law 	A2, C1, D2 (1.4, 1.6, 1.21)
Professional/personal skills, soft skills	
<ul style="list-style-type: none"> Interdisciplinary thinking Adaptation to changes in legislation Sense of responsibility Interpretation of findings Setting priorities Lifelong learning Communication 	A-D (1.13, 1.4, 1.6, 1.8, 2.11)

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Tel.: 0641 9844460 • Fax: 0641 98444625

E-Mail: info@dvg.de • Web: www.dvg.de