

Appendix A

Job task analysis survey

ECBHM 2021 Job Task Analysis Survey

Start of Block: Introduction

ECBHM 2021 Job Task Analysis survey

Dear ECBHM Diplomat,

Every 7-10 years, the ECBHM must conduct a Job Task Analysis (JTA) survey of its members to determine the appropriate construction of the ECBHM annual certifying examination. This process is to ensure that the exam reflects the knowledge required for a minimally competent candidate to become a board-certified expert. You will be asked to rate the importance of a variety of competencies and indicate how often you perform tasks that require it.

The survey will take approximately **60 minutes** to complete. You can exit the survey and resume it later, so you don't need to do it all in one session. **Please note:** you must use the same computer and web browser for the "save and continue" feature to work. Do not clear your web browser's history/cookies until you have completed the entire survey.

Please take the time to fill out the **entire survey** completely and accurately. Your input is invaluable and your involvement has a direct impact on the future of the ECBHM. Thank you for your time and consideration.

End of Block: Introduction

Start of Block: Demographics

Demographics

Presented below are demographic questions used to help evaluate the role of an ECBHM diplomate. All information is held in confidence and is only used to establish a profile of the survey respondent group. Please select only one option for each question, unless otherwise noted.

Year of certification

Have you completed an ECBHM residency?

▼ Yes (1) ... No (2)

Skip To: Q31 If Have you completed an ECBHM residency? = No

Where and when was your ECBHM residency completed?

Was your ECBHM residency Standard Residency Programme (SRP) or Alternative Residency Programme (ARP)?

▼ SRP (1) ... ARP (2)

Have you sat the ECBHM exam?

▼ Yes (1) ... No (2)

Have you supervised ECBHM residents in the past?

- Yes (1)
- No (2)

Skip To: Q722 If Have you supervised ECBHM residents in the past? = No

How many residents have you (co)supervised?

How many ECBHM diplomates are employed in your practice or at your institute?

Do you train the residents together with other diplomates?

- Yes (1)
 - No (2)
-

What is your highest degree earned?

What is your **primary** production system?

▼ Dairy ... Feedlot

What percentage of your time do you spend in these production systems?

_____ Dairy
_____ Beef
_____ Veal
_____ Feedlot

What other animal species do you work with? Select all that apply.

- Small ruminants
 - Equine
 - Companion animals
 - Camelids
 - None
-

What is your **primary** area of employment?

- Academia - Research
- Academia - Clinical
- Academia - Non-Clinical
- Practitioner in the field
- Pharmaceuticals
- Field consultant
- Government
- Retired
- Other _____

In which country (or countries) do you work? (optional)

End of Block: Demographics

Start of Block: Rating scales

Rating Scales

This survey includes a comprehensive list of **112 competencies** across **23 content areas**. Please evaluate **each competency** using the following rating scales:

How important is this competency?

Not at all important
Slightly important
Moderately important
Very important
Extremely important

How often do you perform tasks that require this competency?

Never
Rarely
Sometimes
Often
Always

If there are any knowledge areas you feel have been **omitted**, please list them in the area provided at the end of the survey.

End of Block: Rating scales

Start of Block: 1. Manage herd problems in cattle

1.1

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.1 Reproduction Common causes of reduced herd reproductive performance (including abortion) Analysis of basic reproduction data, interpretation of records Logical and evidence-based approach to investigating and improving reproductive performance

Organization of fertility control schemes, costs and cost effectiveness Understanding the principles of AI and embryo transfer, its advantages, disadvantages and uses, methods of collection, relevant legislation Infertility in the bull and bull breeding soundness examination

1.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

1.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.1 Comments:

1.2

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.2 Mastitis Incidence, prevalence, aetiology, epidemiology, pathology, differential diagnosis, treatment, control and prevention, costs and cost effectiveness

1.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

1.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.2 Comments:

1.3

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.3 Lameness Incidence, prevalence, aetiology, epidemiology, pathology, differential diagnosis, treatment, control and prevention, costs and cost effectiveness

1.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)



1.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.3 Comments:

1.4

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.4 Infectious disease Diseases of cattle which are commonly encountered in Europe, including their cause, epidemiology, prevalence, pathology, differential diagnosis, diagnosis, treatment, control and prevention Notifiable diseases of cattle and their legislation
Parasite control

1.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

1.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.4 Comments:

1.5

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.5 Metabolic disorders Incidence, prevalence, aetiology, epidemiology, pathology, differential diagnosis, treatment, control and prevention

1.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

1.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.5 Comments:

1.6

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.6 Toxicology Incidence, prevalence, aetiology, epidemiology, pathology, differential diagnosis, treatment, control and prevention

1.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

1.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.6 Comments:

1.7

1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease

1.7 Calf and youngstock health Colostrum management Neonatology (omphalitis, sepsis, etc.) Calving management Bovine Respiratory Disease and diarrhoea
Incidence, prevalence, aetiology, epidemiology, pathology, differential diagnosis, treatment, control and prevention

1.7 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

1.7 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

1.7 Comments:

End of Block: 1. Manage herd problems in cattle

Start of Block: 2. Design farm-specific herd health monitoring programs

2. Design farm-specific herd health monitoring programs for the prevalent health issues in Europe, involving adult cattle and calves

2.1 Define key outcomes

2.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

2.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

2.1 Comments:

2.2

2. Design farm-specific herd health monitoring programs for the prevalent health issues in Europe, involving adult cattle and calves

2.2 Obtain relevant data

2.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

2.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

2.2 Comments:

2.3

2. Design farm-specific herd health monitoring programs for the prevalent health issues in Europe, involving adult cattle and calves

2.3 Manage and interpret data

2.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

2.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

2.3 Comments:

2.4

2. Design farm-specific herd health monitoring programs for the prevalent health issues in Europe, involving adult cattle and calves

2.4 Use of sensor technology and artificial intelligence

2.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

2.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

2.4 Comments:

End of Block: 2. Design farm-specific herd health monitoring programs

Start of Block: 3. Describe, analyze and advise on commonly encountered housing and feeding systems

3.1

3. Describe, analyze and advise on commonly encountered housing and feeding systems for cattle and identify associated risk factors for animal health and welfare

3.1 Dairy

3.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

3.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

3.1 Comments:

3.2

3. Describe, analyze and advise on commonly encountered housing and feeding systems for cattle and identify associated risk factors for animal health and welfare

3.2 Cow/calf/suckler herds

3.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

3.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

3.2 Comments:

3.3

3. Describe, analyze and advise on commonly encountered housing and feeding systems for cattle and identify associated risk factors for animal health and welfare

3.3 Beef fattening units

3.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

3.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

3.3 Comments:

3.4

3. Describe, analyze and advise on commonly encountered housing and feeding systems for cattle and identify associated risk factors for animal health and welfare

3.4 Feedlots

3.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

3.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

3.4 Comments:

3.5

3. Describe, analyze and advise on commonly encountered housing and feeding systems for cattle and identify associated risk factors for animal health and welfare

3.5 Veal

3.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

3.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

3.5 Comments:

End of Block: 3. Describe, analyze and advise on commonly encountered housing and feeding systems

Start of Block: 4. Describe, analyze and advise on bovine nutrition

4.1

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.1 Knowledge of anatomy, physiology and principles of normal digestion

4.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.1 Comments:

4.2

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.2 Knowledge of basic nutritional requirements of the cow at different ages and stages of production

4.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.2 Comments:

4.3

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.3 Understand common feeding concepts and principles of diet formulation

4.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.3 Comments:

4.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.4 Comments:

4.5

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.5 Analyze basic nutrition parameters, identify problems and improve rations

4.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.5 Comments:

4.6

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.6 Collect and interpret appropriate samples related to nutrition and metabolism

4.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.6 Comments:

4.7

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.7 Knowledge of commonly seen diseases with nutritional causes

4.7 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.7 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.7 Comments:

4.8

4. Describe, analyze and advise on bovine nutrition for relevant production systems

4.8 Knowledge of nutritional deficiencies - signs, epidemiology, diagnosis, correction and prevention

4.8 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

4.8 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

4.8 Comments:

End of Block: 4. Describe, analyze and advise on bovine nutrition

Start of Block: 5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.1

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.1 Knowledge of vaccine types, advantages/disadvantages (inactivated vs live-attenuated; parenteral vs intranasal; bacterins vs subunit, autologous vaccines)

5.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.1 Comments:

5.2

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.2 Basic insights in immune response depending on vaccine type used: Th1 vs Th2

5.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.2 Comments:

5.3

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.3 Calculate a cost-benefit analysis of implementing vaccination programmes

5.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.3 Comments:

5.4

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.4 Knowledge of EU regulation of vaccines

5.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.4 Comments:

5.5

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.5 Knowledge of vaccination programs for important diseases

5.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.5 Comments:

5.6

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.6 Design/evaluate vaccination protocols in an evidence-based manner

5.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.6 Comments:

5.7

5. Understand the basic principles of vaccinology, immunology and immunomodulation

5.7 Knowledge of existing immunomodulative products, especially those marketed

5.7 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

5.7 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

5.7 Comments:

End of Block: 5. Understand the basic principles of vaccinology, immunology and immunomodulation

Start of Block: 6. Understand and apply the principles of biosecurity

6.1

6. Understand and apply the principles of biosecurity tailored to the farm and at a larger (inter)national level

6.1 Cleaning and disinfection (including spectra of disinfectants)

6.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

6.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

6.1 Comments:

6.2

6. Understand and apply the principles of biosecurity tailored to the farm and at a larger (inter)national level

6.2 Control of human and animal trade/movement

6.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

6.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

6.2 Comments:

6.3

6. Understand and apply the principles of biosecurity tailored to the farm and at a larger (inter)national level

6.3 Purchase management and quarantine

6.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

6.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

6.3 Comments:

6.4

6. Understand and apply the principles of biosecurity tailored to the farm and at a larger (inter)national level

6.4 Principles of infectious disease management

6.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

6.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

6.4 Comments:

6.5

6. Understand and apply the principles of biosecurity tailored to the farm and at a larger (inter)national level

6.5 Transportation of samples

6.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

6.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

6.5 Comments:

End of Block: 6. Understand and apply the principles of biosecurity

Start of Block: 7. Understand, recognize, diagnose and treat individual cattle diseases

7.1

7. Understand, recognize, diagnose and treat individual cattle diseases and estimate their importance to herd health

7.1 Common diseases

7.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

7.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

7.1 Comments:

7.2

7. Understand, recognize, diagnose and treat individual cattle diseases and estimate their

importance to herd health

7.2 Novel diseases

7.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

7.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

7.2 Comments:

7.3

7. Understand, recognize, diagnose and treat individual cattle diseases and estimate their importance to herd health

7.3 Rare diseases

7.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

7.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

7.3 Comments:

7.4

7. Understand, recognize, diagnose and treat individual cattle diseases and estimate their importance to herd health

7.4 (Re)emerging diseases

7.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

7.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

7.4 Comments:

7.5

7. Understand, recognize, diagnose and treat individual cattle diseases and estimate their importance to herd health

7.5 Diseases relevant to herd health

7.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

7.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

7.5 Comments:

End of Block: 7. Understand, recognize, diagnose and treat individual cattle diseases

Start of Block: 8. Perform advanced (non-specialist) surgery in cattle

8.1

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.1 Laparotomy

8.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.1 Comments:

8.2

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.2 Abomasal surgery (conventional and via laparoscopy)

8.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.2 Comments:

8.3

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.3 Umbilical surgery

8.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.3 Comments:

8.4

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.4 Intestinal surgery

8.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.4 Comments:

8.5

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.5 Eucleation

8.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.5 Comments:

8.6

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.6 Dehorning and castration

8.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.6 Comments:

8.7

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.7 Udder and teat surgery

8.7 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.7 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.7 Comments:

8.8

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.8 Claw and limb surgery (tenotomy, amputation, fracture repair, management of tendon and joint diseases)

8.8 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.8 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.8 Comments:

8.9

8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques

8.9 Reproductive surgery (i.e. caesarean section)

8.9 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

8.9 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

8.9 Comments:

End of Block: 8. Perform advanced (non-specialist) surgery in cattle

Start of Block: 9. Appropriately use and advise on pain medications and anesthetic techniques

9.1

9. Appropriately use and advise on pain medications and anesthetic techniques

9.1 Principles of pain detection and management

9.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

9.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

9.1 Comments:

9.2

9. Appropriately use and advise on pain medications and anesthetic techniques

9.2 Effects and side effects of NSAID, GCS, sedatives, anesthetics

9.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

9.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

9.2 Comments:

9.3

9. Appropriately use and advise on pain medications and anesthetic techniques

9.3 Sedation of calves and adult cattle

9.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

9.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

9.3 Comments:

9.4

9. Appropriately use and advise on pain medications and anesthetic techniques

9.4 General anaesthesia in calves and adult cattle

9.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

9.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

9.4 Comments:

9.5

9. Appropriately use and advise on pain medications and anesthetic techniques

9.5 Procedures of regional and local anaesthesia

9.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

9.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

9.5 Comments:

9.6

9. Appropriately use and advise on pain medications and anesthetic techniques

9.6 Legal requirements (EU)

9.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

9.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

9.6 Comments:

End of Block: 9. Appropriately use and advise on pain medications and anesthetic techniques

Start of Block: 10. Advise, promote and improve animal welfare

10.1

10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements)

10.1 Legislation and codes of practice affecting cattle welfare

10.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

10.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

10.1 Comments:

10.2

10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements)

10.2 Interaction with stakeholders involved in cattle welfare

10.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

10.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

10.2 Comments:

10.3

10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements)

10.3 Normal behavioural patterns and their alteration by stress, pain and disease

10.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

10.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

10.3 Comments:

10.4

10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements)

10.4 Welfare in relation to stockmanship, housing nutrition and breeding

10.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

10.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

10.4 Comments:

10.5

10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements)

10.5 Design tailored monitoring programs

10.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

10.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

10.5 Comments:

10.6

10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements)

10.6 Impact of biotechnology on welfare

10.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

10.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

10.6 Comments:

End of Block: 10. Advise, promote and improve animal welfare

Start of Block: 11. Understand epidemiological principles and apply to data analysis

11.1

11. Understand epidemiological principles and apply to data analysis

11.1 Frequency data, incidence and prevalence

11.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

11.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

11.1 Comments:

11.2

11. Understand epidemiological principles and apply to data analysis

11.2 Sample size, association vs causation, confounding, bias, odds ratios, relative risk, attributable risk, sampling strategies

11.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

11.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

11.2 Comments:

11.3

11. Understand epidemiological principles and apply to data analysis

11.3 Study design

11.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

11.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

11.3 Comments:

11.4

11. Understand epidemiological principles and apply to data analysis

11.4 Statistical tests - choosing an appropriate test

11.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

11.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

11.4 Comments:

11.5

11. Understand epidemiological principles and apply to data analysis

11.5 Interpretation of tests results (Se, SP, PPV, NPV)

11.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

11.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

11.5 Comments:

End of Block: 11. Understand epidemiological principles and apply to data analysis

Start of Block: 12. Understand and implement the principles of evidence-based veterinary medicine

12.1

12. Understand and implement the principles of evidence-based veterinary medicine

12.1 Understand the principles of and the reasons for conducting clinical audits at the farm practice level (Clinical audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria. Where indicated, changes are implemented and further monitoring is used to confirm improvement in care delivered to patients.).

12.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

12.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

12.1 Comments:

12.2

12. Understand and implement the principles of evidence-based veterinary medicine

12.2 Define appropriate research questions, search literature for evidence, summarize findings based on level of evidence and advise accordingly (e.g. PICO question)

12.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

12.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

12.2 Comments:

End of Block: 12. Understand and implement the principles of evidence-based veterinary medicine

Start of Block: 13. Measure antimicrobial use and apply the principles of rational antimicrobial use

13.1

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.1 Knowledge of current recommendation of the prudent use of drugs

13.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.1 Comments:

13.2

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.2 Basic knowledge of potential for residues in animal products and the environment

13.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.2 Comments:

13.3

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.3 Understand the basics of bacterial culturing, microbial identification and antimicrobial susceptibility testing

13.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.3 Comments:

13.4

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.4 Understand the basics of efficacy testing of antiparasitic drugs

13.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.4 Comments:

13.5

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.5 Knowledge of application of drugs to minimize development of resistance

13.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.5 Comments:

13.6

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.6 Knowledge of methods of quantification of antimicrobial use (dose based vs. mass based)

13.6 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.6 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.6 Comments:

13.7

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.7 Knowledge of variations in antimicrobial use in different cattle industries and different EU countries

13.7 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.7 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.7 Comments:

13.8

13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use

13.8 Basic knowledge of the potential role of the cattle sector in resistance selection in humans

13.8 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

13.8 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

13.8 Comments:

End of Block: 13. Measure antimicrobial use and apply the principles of rational antimicrobial use

Start of Block: 14. Understand principles of paraclinical / ancillary disciplines

14.1

14. Understand principles of paraclinical / ancillary disciplines

14.1 Microbiology

14.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

14.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

14.1 Comments:

14.2

14. Understand principles of paraclinical / ancillary disciplines

14.2 Pharmacology / pharmacokinetics

14.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

14.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

14.2 Comments:

14.3

14. Understand principles of paraclinical / ancillary disciplines

14.3 Biochemistry (e.g. water analysis)

14.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

14.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

14.3 Comments:

14.4

14. Understand principles of paraclinical / ancillary disciplines

14.4 Appropriate tests available for common diseases (including principles of sensitivity and specificity)

14.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

14.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

14.4 Comments:

End of Block: 14. Understand principles of paraclinical / ancillary disciplines

Start of Block: 15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis

15.1

15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis and application as part of a herd health program (e.g. purchase control)

15.1 Take appropriate samples

15.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

15.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

15.1 Comments:

15.2

15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis and application as part of a herd health program (e.g. purchase control)

15.2 Select most appropriate test(s)

15.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

15.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

15.2 Comments:

15.3

15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis and application as part of a herd health program (e.g. purchase control)

15.3 Describe tests strengths and weaknesses

15.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

15.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

15.3 Comments:

15.4

15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis and application as part of a herd health program (e.g. purchase control)

15.4 Interpret routine laboratory diagnostics (haematology and clinical pathology)

15.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

15.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

15.4 Comments:

15.5

15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis and application as part of a herd health program (e.g. purchase control)

15.5 Interpret routine analysis of different body fluids (peritoneal fluid, milk, synovial fluid, cerebrospinal fluid, urine, rumen fluid)

15.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

15.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

15.5 Comments:

End of Block: 15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis

Start of Block: 16. Apply medical imaging techniques on farm

16.1

16. Apply medical imaging techniques on farm

16.1 Understand imaging techniques which are typically available on farm

16.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

16.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

16.1 Comments:

16.2

16. Apply medical imaging techniques on farm

16.2 Perform and interpret advanced but not specialized imaging

Ultrasonography umbilical, liver and abdominal limited to orthopedics	Focus on but not limited to reproductive, teat, lung, X-ray Focus on but not Basics of health and safety implications
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Endoscopy
urinary tract, teat

Focus on but not limited to digestive tract, respiratory tract,
Laparoscopy

16.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

16.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

16.2 Comments:

End of Block: 16. Apply medical imaging techniques on farm

Start of Block: 17. Perform necropsy using a methodical approach and take appropriate samples for diagnostic purposes

17.1

17. Perform necropsy using a methodical approach and take appropriate samples for diagnostic purposes

17.1 Perform a protocolized field necropsy, including appropriate sampling

17.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

17.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

17.1 Comments:

17.2

17. Perform necropsy using a methodical approach and take appropriate samples for diagnostic purposes

17.2 Identify gross pathologies

17.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

17.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

17.2 Comments:

17.3

17. Perform necropsy using a methodical approach and take appropriate samples for diagnostic purposes

17.3 Understand the biohazard/public health implications of necropsies

17.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

17.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

17.3 Comments:

End of Block: 17. Perform necropsy using a methodical approach and take appropriate samples for diagnostic purposes

Start of Block: 18. Understand and contribute to animal health economics

18.1

18. Understand and contribute to animal health economics

18.1 Understand the impact of herd health, diseases and animal welfare on farm finances, productivity and public health (inc. zoonoses)

18.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

18.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

18.1 Comments:

18.2

18. Understand and contribute to animal health economics

18.2 Understand financial implications of intervention measures and prevention

18.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

18.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

18.2 Comments:

18.3

18. Understand and contribute to animal health economics

18.3 Perform a cost-benefit analysis, economic analysis of production results

18.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

18.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

18.3 Comments:

End of Block: 18. Understand and contribute to animal health economics

Start of Block: 19. Diagnose, advise on and control zoonotic disease related to animal contact or consumption of products

19.1

19. Diagnose, advise on and control zoonotic disease related to animal contact or consumption of products

19.1 Knowledge of public health dangers related to cattle and their products: meat, milk, animal contact

19.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

19.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

19.1 Comments:

19.2

19. Diagnose, advise on and control zoonotic disease related to animal contact or consumption of products

19.2 Relevant legislation for zoonotic diseases

19.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

19.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

19.2 Comments:

19.3

19. Diagnose, advise on and control zoonotic disease related to animal contact or consumption of products

19.3 Basic knowledge of the clinical signs of zoonotic diseases (from cattle) in humans

19.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

19.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

19.3 Comments:

End of Block: 19. Diagnose, advise on and control zoonotic disease related to animal contact or consumption of products

Start of Block: 20. Be aware of relevant current EU legislation

20.1

20. Be aware of relevant current EU legislation and be able to translate into practical situations

20.1 Cattle health and welfare

20.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

20.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

20.1 Comments:

20.2

20. Be aware of relevant current EU legislation and be able to translate into practical situations

20.2 Rearing

20.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

20.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

20.2 Comments:

20.3

20. Be aware of relevant current EU legislation and be able to translate into practical situations

20.3 Slaughter and euthanasia

20.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

20.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

20.3 Comments:

20.4

20. Be aware of relevant current EU legislation and be able to translate into practical situations

20.4 Drug use

20.4 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

20.4 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

20.4 Comments:

20.5

20. Be aware of relevant current EU legislation and be able to translate into practical situations

20.5 Biosecurity and regulated animal diseases

20.5 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

20.5 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

20.5 Comments:

End of Block: 20. Be aware of relevant current EU legislation

Start of Block: 21. Interpret and apply scientific literature

21.1

21. Interpret and apply scientific literature

21.1 Evaluate a scientific paper on quality of evidence and translate its content to field applications

21.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

21.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

21.1 Comments:

21.2

21. Interpret and apply scientific literature

21.2 Effectively communicate results of paper

21.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

21.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

21.2 Comments:

21.3

21. Interpret and apply scientific literature

21.3 Demonstrate knowledge of recent literature

21.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

21.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

21.3 Comments:

End of Block: 21. Interpret and apply scientific literature

Start of Block: 22. Effectively communicate with a variety of stakeholders and influence human behaviour

22.1

22. Effectively communicate with a variety of stakeholders and influence human behaviour

22.1 Define appropriate communication strategies for different circumstances

22.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

22.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

22.1 Comments:

22.2

22. Effectively communicate with a variety of stakeholders and influence human behaviour

22.2 Knowledge of factors affecting human behaviour and strategies for influencing behaviour change

22.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

22.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

22.2 Comments:

22.3

22. Effectively communicate with a variety of stakeholders and influence human behaviour

22.3 Effectively communicate with veterinary specialists, first line practitioners, farmers, farm advisers, consumers and stakeholders from the cattle industry

22.3 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

22.3 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

22.3 Comments:

End of Block: 22. Effectively communicate with a variety of stakeholders and influence human behaviour

Start of Block: 23. Basic understanding and application of breeding and genetics

23.1

23. Basic understanding and application of breeding and genetics

23.1 Genetic improvement of stock Heritability of characteristics Selection for characteristics (EBVs) Economic assessment of genetic gain Influence of breed improvement on health and its constraints

23.1 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

23.1 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

23.1 Comments:

23.2

23. Basic understanding and application of breeding and genetics

23.2 Hereditary and congenital diseases

Gene introduction and health risks

Pedigree analysis

23.2 How important is this competency?

▼ Not at all important (0) ... Extremely important (4)

23.2 How often do you perform tasks that require this competency?

▼ Never (0) ... Always (4)

23.2 Comments:

End of Block: 23. Basic understanding and application of breeding and genetics

Start of Block: Percentage allocation

Allocation

Please use the sliders below to indicate what percentage of the exam should be allocated to each content area. There are 23 categories. You cannot exceed 10% per category. Your choices must total 100%.

- _____ 1. Manage herd problems in cattle, involving both endemic and epidemic or (re-)emerging disease. (1)
- _____ 2. Design farm-specific herd health monitoring programs for the prevalent health issues in Europe, involving adult cattle and calves (4)
- _____ 3. Describe, analyze and advise on commonly encountered housing and feeding systems for cattle and identify associated risk factors for animal health and welfare (5)
- _____ 4. Describe, analyze and advise on bovine nutrition for relevant production systems (6)
- _____ 5. Understand the basic principles of vaccinology, immunology and immunomodulation (7)
- _____ 6. Understand and apply the principles of biosecurity tailored to the farm and at a larger (inter)national level (8)
- _____ 7. Understand, recognize, diagnose and treat individual cattle diseases and estimate their importance to herd health (9)
- _____ 8. Perform advanced (non-specialist) surgery in cattle and have knowledge of advanced therapeutic and surgical techniques (10)
- _____ 9. Appropriately use and advise on pain medications and anesthetic techniques (11)
- _____ 10. Advise, promote and improve animal welfare (beyond the legal minimal EU requirements) (12)
- _____ 11. Understand epidemiological principles and apply to data analysis (13)
- _____ 12. Understand and implement the principles of evidence-based veterinary medicine (14)
- _____ 13. Measure antimicrobial use (including but not limited to antibiotics, chemotherapeutics and anti-parasitic drugs) and apply the principles of rational antimicrobial use (15)
- _____ 14. Understand principles of paraclinical / ancillary disciplines (16)
- _____ 15. Use and interpret diagnostic tests and procedures for individual animal and herd diagnosis and application as part of a herd health program (e.g. purchase control) (17)
- _____ 16. Apply medical imaging techniques on farm. (18)
- _____ 17. Perform necropsy using a methodical approach and take appropriate samples for diagnostic purposes. (19)
- _____ 18. Understand and contribute to animal health economics (20)
- _____ 19. Diagnose, advise on and control zoonotic disease related to animal contact or consumption of products (21)
- _____ 20. Be aware of relevant current EU legislation and be able to translate into practical situations (22)
- _____ 21. Interpret and apply scientific literature (23)

_____ 22. Effectively communicate with a variety of stakeholders and influence human behaviour (24)

_____ 23. Basic understanding and application of breeding and genetics (25)

End of Block: Percentage allocation

Start of Block: Survey adequacy

How well did this survey cover the important knowledge areas required to be an ECBHM diplomate?

- Completely (1)
- Adequately (4)
- Inadequately (5)

Please list any additional knowledge areas that were not covered by this survey.

Do you have any additional comments, questions, or concerns you would like to share?

End of Block: Survey adequacy

Start of Block: Name and email address

If you would like to obtain credit from the College for completing this survey, please enter your **name** and **email address** below. Your responses will remain anonymous and will not be linked to your name in any way.

Name:

Email address:

End of Block: Name and email address
