

## **Appendix I**

### Competency-specific comments

## 1.1 Comments

Basic data analysis skills needed, so many different herd softwares available now, it is not fair to expect competency in all of them.

BBSE performed rarely

This provides the core of my work as a cattle vet in practice in England.

major point in dairy management herd program, but It is not in my direct teaching competency

I do little of this work myself, apart from scientific research, but is very important in the field. This goes for all competencies.

for all herds included in our her-health service these competences are required almost everyday. Cost effectiveness is not our strongest part within the competences described and needs to be improved.

Not performed because it is not in my area of expertise and activity (academia)

These are skills which we are using weekly and are also taught at a basic level to our undergraduate veterinary student. All farm vets should be able to interpret fertility data.

ET etc. would be less common but data analysis and investigation would be extremely important

We don't do much embryo transfer

Analysis of reproductive data is essential to the work of the modern dairy vet/consultant. I think ECBHM residents and diplomats should be going further than analysis of 'basic' reproduction data.

Primarily I teach these skills

consequences of deficiencies or lameness

Analysis of reproductive data is essential to the work of the modern dairy vet/consultant. I think ECBHM residents and diplomats should be going further than analysis of 'basic' reproduction data.

## 1.2 Comments

Lots of new research in this area constantly published. Herd health questions in the exam would be good in this area.

Mastitis is a costly endemic health condition, for which intervention by specialists is likely to have a very significant impact on cow health and welfare, as well as efficiency of food production.

Of obvious importance in dairy herds but very much less so in beef suckler herds.

Major point but less than reproduction, and evidently not in beef herd

more performed in problem herds

is getting more and more specialized

Mastitis is one of the most prevalent diseases in dairy cattle, with it being a herd issue due to transmission methods. It is a big welfare issue as well as a problem which have large economic implications

great potential for the reduction of antibiotic use by improving management and lowering mastitis incidence

Mastitis is the most common disease in dairy cattle. Analysis of mastitis data is also essential in a residency programme.

A significant welfare issue

I do not do very much herd level dairy work (more individual animal) due to the nature of my role in academia

Mastitis is the most common disease in dairy cattle. Analysis of mastitis data is also essential in a residency programme.

### 1.3 Comments

Very important and being used as a welfare metric across standards now

Lameness is arguably the most significant limiter of welfare in dairy systems: training and intervention in this area is vital for specialists.

Managing lameness is currently a huge challenge in British dairy herds in particular from a welfare and public perception point of view.

Don't forget an ability to foot trim and treat an individual animal is perhaps just as important as the herd level approach.

is included now in the regular herd health visits for farms with lameness problems.

Not performed because it is not in my area of expertise and activity (academia)

One in three dairy cows is lame - this is a massive welfare issue which need to be prevented and a herd level approach is hugely beneficial

A very significant welfare issue

I am mainly seeing beef cows in this regard

Area of improvement for me. Especially implementing in the herd routine need to be done / improved in the next month!

## 1.4 Comments

For exam purposes, unfair to ask about diseases specific to one country? Need a broad understanding of common ones, particularly abortion agents.

I find epidemiology and diagnostics are often poorly understood, particularly by vets in practice.

Epidemic disease are rarest than zootechnical problems excepted the respiratory diseases in feedlots and gastro-enteritis in calves.

Notifiable diseases are important but the management of these diseases are in charge of governmental veterinarians.

Most often mastitis (contagious), otherwise in our case load: calf pneumonia, diarrhea, infectious abortion.

parasite control will gain relevance with more cattle going back to grazing or part-time grazing for animal welfare reasons

I suspect regional variation will vary the diseases people work with

The ability to assess and control infectious disease is a really essential aspect of being a cattle veterinarian

lots of herd level parasite control advice

## 1.5 Comments

Ties in with nutrition herd approach

I might refer to Transition management and issues rather than metabolic disorders so that post-partum uterine infection and abomasal displacement, volvulus and torsion are included.

As often as reproductive or lameness disease as subclinical problems

Data analysis is important but restricted by what it recorded ie. data quality

## 1.6 Comments

More individual animal based?

Could be regarded as a low prevalence - high impact condition. It may not be that common but when it is the consequences can be devastating.

Important when they happen, but less frequent than endemic disease in my clinical experience

Toxic conditions are important to know about but rarely encountered.

## **1.7 Comments**

Mainly looked at on a herd health basis. Calf health in a group is vip, exam qs in the herd health section important

The calf is the future of the herd - without healthy calves we will not have a healthy and productive herd.

Also an area of improvement for me on my daily work



## 2.1 Comments

Why "herd specific" only?

This is an area that can, if necessary, be reinforced by further research - it is not emergency medicine.

I am not sure to understand well : objectives of monitoring programs? If yes it is important to have objectives but they are to be defined principally by the farmer. in accordance with bylaws.

Taylor made herd health service adapted to the farmers needs

Not performed often because it is not my primary area of activity (academia)

We should be preventing the suffering of farm animals and herd health offers a way of preventing/reducing the prevalence of disease

knowing goals and communicating effectively with farmers

## 2.2 Comments

Very farm specific for ways of recording data, so competency in specific herd software shouldn't be needed.

usually relevant data is available in computer software but occasionally must even be collected manually from the farm record or by doing herd monitoring/ scoring (mobility etc)

See comment above.

Difficult to get decent treatment data since recording in our country still inadequate.

Not performed often because it is not my primary area of activity (academia)

Herd health does not work without data

digitalisation: how do I get my data out of the system the farm uses, for example AMS with in-line measurement of parameters (milk quality related like scc or fertility related like heat, etc.)

The skills to work with digital systems are becoming more important!

### **2.3 Comments**

including medicines reviews and different ways to analyze antibiotic use data.

See comment above.

Not performed often because it is not my primary area of activity (academia)

How else do you know what the problem is

see comment above

Vets need to be proficient in new technologies!

Being able to handle data is essential to the role

To a lot of colleagues, this seems to be a "Black Box" - The competence in understanding and interpreting data is sometimes appalling.

## 2.4 Comments

An area that is developing more and more, will become important over next 5-10 years

occasionally use the data but do not really need to know how it works etc

Whilst machine learning/analysis of big data is an emerging field in dairy farming, it is not necessary for all bovine specialists to be proficient in this area.

In my opinion there is an increasing tendency to rely on remote information and analysis. Looking at the animals and the farm must remain central to any investigation/monitoring programme.

Future of the preceding tasks

This is part of my PhD project and it is becoming apparent that this will be an area of high importance in the future that is currently not highly prioritised by the residency programme

more and more need to manage farms with a lot of sensor technology data.

Very important to know and understand the technology to keep up with current herd management practices, the practical relevance of this information to assess the real health and welfare of animals is less clear, therefore only "moderately important"

This will become increasingly important on farms (as highlighted by being asked in this survey, which it would not have been 5-10 years ago)

Increasing in importance and relevance

Sensors used in heat detection routinely on farm; but we rarely get involved with the detail of this but commonly use the output, I wouldn't expect detailed knowledge or ability with these. No other sensors commonly used in clinical work. I have researched detector use in lameness identification

I would prioritise analysis of existing data (which isn't always adequately recorded) prior to collection of new sensor data.

The current knowledge is generally poor.

I would like to use this more often but it is restricted to the number of farms that have implemented these systems. Currently that is only a small proportion of our clients

I would prioritise analysis of existing data (which isn't always adequately recorded) prior to collection of new sensor data.

The current knowledge is generally poor.

### **3.1 Comments**

VIP in welfare audits too

As above, dairy work provides the majority of my day-to-day work in practice in England.

Not performed often because it is not my primary area of activity (academia)

The housing environment plays a massive role in most endemic disease of cattle

topics often covered by non-veterinary advisors, but the vet should know the basics

My application of this is probably limited to UK systems to an extent

Could separate out housing and feeding; both huge topics

Often seen too late.

### **3.2 Comments**

I am a little unusual as a farm animal vet in the central south/south-west of England in that I am proactive in my approach to suckler farmers. There is significant opportunity for veterinary involvement here.

Too few beef herds in monitoring activity

This reflects the minimal beef work in my current position rather than the requirement for this work to be done.

Not performed often because it is not my primary area of activity (academia)

The housing environment plays a massive role in most endemic disease of cattle

### 3.3 Comments

Getting the housing and feeding right are central to maximising health and performance.

There is a calf health service in Switzerland they also cover bull fattening units

Not performed often because it is not my primary area of activity (academia)

The housing environment plays a massive role in most endemic disease of cattle

Possibly less inclined to contact vets for help - in the UK I hope these systems require lower input

There is huge potential for welfare problems and financial loss if this is not managed well.

This segment is regionally different, certainly important in some areas, in others virtually non-existent.

This segment is regionally different, certainly important in some areas, in others virtually non-existent.

### **3.4 Comments**

Feed lots do not really feature in my client-base.

Not in charge of feedlots

Feedlots aren't really a type of farming that is present in my country but I think it is still important to have awareness of this given the multi-country nature of the diploma

Not performed often because it is not my primary area of activity (academia)

The housing environment plays a massive role in most endemic disease of cattle

Less common system in UK

UK has very few/no true feedlot systems but that doesn't mean it is not important to understand them as a comparator



### 3.5 Comments

Veal producers do not feature within my client-base although they are important elsewhere in Europe.

Similar to feedlots, veal is a minority farming practice where I work

Not performed often because it is not my primary area of activity (academia)

No veal calf systems in UK

The housing environment plays a massive role in most endemic disease of cattle

An important system to understand but not one I personally deal with regularly

less common system in UK

Not a big issue in UK

as above

A very special segment

#### 4.1 Comments

Diet is important in maintaining health and productivity.

tasks with anatomy and physiology? Nutritionist task. It is important to understand and have knowledge on how a dysfunction can occur.

Basic knowledge to understand ration formulation

Without a knowledge of normal, how do we know what abnormal is

The basics are required to then apply treatment and management advice but are likely more at a base level than something I notice myself considering regularly.

Nutrition is the key to so many health problems. Vets should know the basics and be able to find problem areas. Not necessary be the perfect nutrition advisor but know what to look for.

Working in conjunction with nutritionalist this is essential. Veterinarian can ensure that the theoretical diet set by nutritionist is actually implemented and that it is working.

As a risk factor for disease this is important. The involvement of vets in this varies. I have developed my involvement up to government advisory level but this has taken time and confidence over many years.

## 4.2 Comments

This is central in maintaining health and productivity.

Nutritionist task

especially important: transitionfeeding that is a key production phase and most feed advisors do not cover transition time in CH, so there is a lot to gain for veterinarians!



### 4.3 Comments

Basics of what cows should be fed and relevance to production stages is VIP, but specific diet formulas and feeding methods are so varied it is difficult to learn all of them

Although I rarely design rations an understanding of diet formulation is important to allow meaningful discussion with nutritionists.

A large number of diseases are linked to diet so we need to be able to understand the ration of the diet we are feeding to our cows

As veterinary advisors our farmers expect us to have a basic knowledge in this area, even if this is not a regularly used or in depth knowledge. As a specialist our colleagues likely expect us to know more than them in this area.

But can be done in conjunction with nutritional specialist in many circumstances

If you're not involved with it - In my opinion the role of the vet in this area is generally overrated.

#### **4.4 Comments**

This is performed in Switzerland by agro-specialists not vets.

See comments above.

It is important to know how to examine a conserved dietary constituent







## 4.5 Comments

This is performed in Switzerland by agro-specialists not vets.

See comments above.

except for the last proposition "improve" I am not nutritionist

We try to seek collaboration with feed advisors in case they already do some consultancy for the farmer. Knowledge about nutrition is very important for discussions with the advisors.

Not performed often because it is not my primary area of activity (academia)

The key word is basic!

'Basic' nutritional advice is appropriate. I think we should recognise that dedicated 'qualified' nutritionists are often more capable than vets or specialists.

In conjunction with nutritionist in many cases

ration formulation is best left to the cattle nutritionist but it is important for the vets to be able to interpret diets to establish their suitability for a system and whether a problem may be truly dietary or managerial.

often done in collaboration with specialist nutritionist

#### 4.6 Comments

More relevant for vets on farm, to focus on animal outcomes

This is performed in Switzerland by agro-specialists not vets.

See comments above.

But not systematically, and probably not for all the metabolic diseases

Not performed often because it is not my primary area of activity (academia)

Feed related sampling is mostly done by nutritionists rather than vets

This is the job of the vet, ideally in collaboration with a nutritionist

This can be something simple like metabolic profile. where feeds are sampled it is important that proper training has been given to ensure accurate and reliable sampling.

interpretation is important. In the UK the vet almost never collects the samples

This should be the job of a feed advisor. This may be the vet, but not necessarily so.

## 4.7 Comments

More clinical relevance

Whilst some specialists perform lots of nutrition advisory work, many specialists do not. However, regardless of whether the specialist is directly involved in ration formulation, identification of problems related to poor nutrition is of paramount importance.

This is implicit in being a farm animal vet, isn't it?



## 4.8 Comments

More clinical relevance

This is performed in Switzerland by agro-specialists not vets.

See comment above.

It is important but rare occurrences



## **5.1 Comments**

In my experience this area is often poorly understood by vets in practice.

Vaccine availability is also affected by licensing considerations

Detailed knowledge of vaccinology is highly desirable but may not always be possible.

## 5.2 Comments

Knowledge of this is vital in diagnostics.

Wrong concept ! = should be removed from the list

Although I think it is very important to know about the mechanisms we do not "use" it a lot since in our country there is much room for vaccination

This is not an area I often consider

Do not vaccinate much herds in Switzerland



### 5.3 Comments

Important to be able to demonstrate benefits to farmers, but difficult unless done on individual basis

While cost is important it may not be the over-riding consideration - what price welfare?

There is room for improvement for this in our country

Not performed often because it is not my primary area of activity (academia)

Important to be aware of multiple factors affecting clinical decision making

May it do more - probably I would use more vaccine afterwards...

## 5.4 Comments

Know what is licensed in your country of work is obviously important. But to know vaccine details for other countries in EU is difficult.

Switzerland is not in the EU

except for regulatory diseases

Although not EU country some regulations are important to know in case of importation of vaccines into Switzerland.

Not EU member state

Essential to be working within the legal framework

Sadly less important in the UK since Brexit

## 5.5 Comments

These can always be looked up and there will constantly be new vaccines available or new regimes so not needed to memorise

Again, often, in my opinion, poorly understood by vets in practice.

It is important to know how and where we can obtain the comprehensive elements to implement a vaccination program. Not knowing them "by heart"

Varies a lot between countries

Important that this can be put in place rapidly when required.

Varies a lot between countries

## 5.6 Comments

Need to advise on current evidence base

most of the time it is a case of working with datasheet instructions and encompassing this into the management system.

See comments above.

unfortunately this is still very much cost and "historical use" influenced, rather than always on veterinary advice, despite the evidence based approach of the veterinarian

## 5.7 Comments

See comments above.

Might increase in the future

Relatively easy to look up though, I don't expect to be able to recall them all and their protocols

Need to be able to give informed opinion in this area to prevent use of ineffective products.

Might increase in the future

## 6.1 Comments

farm level only

Especially the importance of cleanliness!

Disinfection between every farm is essential however I would argue that few cattle vets concern themselves with knowledge of a wide range of disinfectants knowledge

I look it up when I need this

I often disinfect, but don't often need to recall active ingredient etc. - again I would look it up when relevant.

my judgement is based on 'outright knowledge' - this information is easily looked up, so more important is the awareness that disinfectants differ widely in efficacy and spectrum

## 6.2 Comments

Would depend on the location / job but important for all cattle vets to be aware of requirements

I am a director of CHeCS!

mandatory diseases

As a UK practicing vet this now has wider implications than before Jan 2021

more a niche field rather than common in day-to-day practice; information readily available if required

### **6.3 Comments**

See comment above.

A lot of purchase and animal movement in our country but a very poor understanding of biosecurity

Rarely implemented

Advise and hope that farmers follow this

These measures are often unpopular to farmers so need to be absolutely clear on what could and should be done.

Rarely implemented



## **6.4 Comments**

Basis of most herd health plans

See comment above.





## 6.5 Comments

very often for blood sampling, but sometimes for other samples.

rarely because working at the faculty no need to transport

To know whme to ask is enough most of the times

Something to look up if not sure how a certain sample needs to be transported. Most labs provide sufficient information.

Samples which are not handled properly can be very misleading and give a false sense of security.

Staff in the Practice Office follow previously agreed legal protocols

## 7.1 Comments

Basis of first opinion cattle veterinary practice

This is central, in my opinion, to being a farm animal vet in practice.

The herd is the sum of individuals! Without being able to examine and treat individual animals, there is no herd health.

An essential skill

I guess the challenge here is what is "common"!

Also important as can be indicators of more widespread herd problems.

## 7.2 Comments

Important to know in disease is common or novel

Novel disease, by definition, is not encountered often.

By definition, novel is rare

Identification of novel diseases is not very common by its very nature but it is extremely important from disease surveillance point of view - many novel and emerging diseases are identified by 'frontline' vets and vets working in pathology centres.

Diseases awareness is very important see also Bluetongue outbreak in Europe

Vets as first line of defense against emerging diseases

I would consider "recognise" the most important here

Need to be aware of possible new disease and how to diagnose and take advice.

### 7.3 Comments

If notifiable more important

Common diseases are common because they are seen frequently, rare diseases are, by definition, seen rarely!

The same as 7.2: a rare disease becomes novel when repeat

If diplomats can't identify rare diseases who can we expect to be able to do this?

As a first line practitioner it might not be super important but as a referral clinic it is important to take this into account.

Important to consider

a rare disease in a country might not exist in another, so it is impossible to know much about rare diseases. Also something to look up or research if needed

Common vs novel vs rare is difficult and will vary by country/region - for me regularly need to recall a lot of detail on common things but only really expect to recognise novel or rare and then look up more detail if needed.





## 7.4 Comments

Importance of reporting and recording diseases helps national mapping

See comments above.

the same

See above Re novel diseases

Very important to consider at both individual and national herd level

In relation to diseases like BT or Lumpy Skin we see that a general knowledge is important in order to be able to advise on it.

## **7.5 Comments**

Involved in my day-to-day work every day.



## 8.1 Comments

More important for practitioners working in clinical practice or hospitals

Important for field vets, not for academics etc. If you need this skill you will learn on the Job. Not essential for ECBH< training: impossible to test

Required for many bovine surgeries - caesar, DA etc

Depending on the focus (individual versus herd)

Common diagnostic and treatment technique

Key to general practice but not part of my role currently

It's more important for a diplomate to know how to prevent the necessity of doing it. Applies to all following as well!

It's more important for a diplomate to know how to prevent the necessity of doing it. Applies to all following as well!

## 8.2 Comments

More important for practitioners working in clinical practice or hospitals

job dependent

...although prevention would be better than cure!

I am working only 30% with Holstein cows

This is the most common abdominal surgery I perform

Depending on the focus (individual versus herd)

Conventional - 100% important

Laparoscope - less important

Key to general practice but not part of my role currently

Toggle method very important



### **8.3 Comments**

More important for practitioners working in clinical practice or hospitals

Performed too often, in my opinion.

Depending on focus, may be important if you have valuable breeding animals in your clientele, but there are also effective preventive measures to tackle this if a herd problem.

Key to general practice but not part of my role currently

#### **8.4 Comments**

More important for practitioners working in clinical practice or hospitals

Performed by our surgeon in charge

Would often get another vet with a particular interest in bovine abdominal surgery to help.







## 8.5 Comments

More important for practitioners working in clinical practice or hospitals

this surgery is not technically difficult.

important salvage procedure

alleviates pain effectively

Key to general practice but not part of my role currently

Well, that's not the Job of a diplomate, is it?

I have performed several times but we are seldom asked to do so by clients now.

Well, that's not the Job of a diplomate, is it?

## 8.6 Comments

More important for practitioners working in clinical practice or hospitals

Not an advanced surgical technique. Mostly performed by trained farm staff in most countries.

Bread and butter work for cattle vets in practice - you must be able to do it well and efficiently.

Not complicated surgery and dehorning is rarely done by a practitioner

These are day 1 skills in my country that all undergraduates need to demonstrate competency of before qualifying - it is inconceivable that specialists would be unable to perform these procedures.

Not performed often because it is not my primary area of activity (academia)

Whilst non-specialist this is an essential skill for any vet and a lack of ability in areas such as this may prevent a vet earning the correct level of respect

important because almost every bovine undergoes one of these procedures. Mostly not performed by the vet but the farmers must be trained

veterinary castration and dehorning becoming rarer in UK as farmers use elastrators and disbudding irons themselves.

Don't let Diplomates do this!!

Other staff do this more often.

## **8.7 Comments**

More important for practitioners working in clinical practice or hospitals

I would often request assistance from a more experienced surgeon with these cases.

prevention is more important than surgery in this case

Depending a lot on the value of individual animals I guess if farmers demand it

Perhaps becoming less important as long term prognosis is usually not good.

## 8.8 Comments

More important for practitioners working in clinical practice or hospitals

I can do these myself!

might be more a task for ECVS diplomates, I find it important to be able to make a triage of cases and then may be send them to a specialist.

Amputation important salvage procedure and gives pain relief.

this is my specialisation

If an animal is valuable enough to warrant orthopaedic surgery there are far better qualified people to perform this however claw amputation is routinely performed.

Should be aware and able to do it but need to concentrate on prevention of need.

## 8.9 Comments

More important for practitioners working in clinical practice or hospitals

I would ideally have qualified assistance for caesarean surgery to give the best possible outcome (although I am quite competent at doing them alone).

I am not working in a practice for emergencies

Key to general practice but not part of my role currently





## **9.1 Comments**

Underpins all veterinary medicine

Welfare is becoming of more and more concern.





## 9.2 Comments

More important for practitioners working in clinical practice or hospitals  
often poorly appreciated.

There is an assumption in society that NSAIDs and other drugs to protect welfare should always be used.  
Diplomats need to be aware of the cost benefit and make sure that it is in the interests of the animal.

### **9.3 Comments**

More important for practitioners working in clinical practice or hospitals

Perhaps not needed every day but when it is needed it is important!

specialist are present in our structure

Essential for cattle and human safety

#### **9.4 Comments**

More important for practitioners working in clinical practice or hospitals

Only would be used frequently in hospitals etc, in which case very important.

Usually have assistance and time to prepare.

In calves and heifer until 300 kg. Rarely for heaviest cattle

If this means using simple i.v. protocols it is important

Unusual in the field

General anaesthesia rarely performed on adult cattle and would be outside my scope of expertise as well as requiring specialist equipment that my clinic does not possess.

## 9.5 Comments

More important for practitioners working in clinical practice or hospitals

Regional and specific nerve blocks are often confused!

important animal welfare aspect!

## 9.6 Comments

Switzerland.....

This is important but animal welfare should come first.

Specialist did that (not very good for cattle animals), and we did also for goats and sheep

Switzerland not in the EU

Non EU country;)

Not practising in EU member state

Extremely important to work within the regulatory environment and follow the law.

Again, EU regulations are less important now the UK is no longer in the EU but as we have adopted most of the standards they currently still apply.



## 10.1 Comments

VIP for practitioners to know what standards bodies their famers are supplying and what requirements they have for certain welfare and health parameters.

aware of legislation in the Uk but not across all of EU

While legal requirements are important they should also be intuitive.

Important in everyday work

Vets are on the farms and can advise on legally required minimum standards

Extremely important for consumer assurance about welfare standards

## 10.2 Comments

The bodies that set standards, affect day to day practices of first opinion vets.

Communication with farmers etc etc

Not something specialist should be judged on - what is the skill here?

The bovine specialist should have an important role in communication with farmers, practising vets and industry stakeholders, promoting animal welfare at all times.

If the vet can not promote welfare at every opportunity who can?

By stakeholders I am thinking clients / owners here

Essential to maintain the reputation of the cattle industry and to provide evidence based fact rather than ill informed opinion

### **10.3 Comments**

Basis of diagnosis work ups

This is implicit in my role as a vet.

Often performed just as one point in an audit of a problem farm (most often lameness problems)

We are advocating for our bovine patients and thus should be more aware of this than a basic practitioner



#### **10.4 Comments**

Vets often need to call out bad practice or even normal practice that is more tradition than evidence based.

This is implicit in my role as a vet.

Essential that stockmen are well trained and able to act when things are not as they should be.

## 10.5 Comments

Every farm is different so being able to help farmers develop a plan for their unit to meet certain thresholds is an important skill.

I should do more of this.

Depends on how you interpret the question: tailored monitoring program to control lameness on farm?  
Important!

Monitor general welfare using the welfare quality assessment protocol? Certainly not regularly performed, but nevertheless important!

That's our job as diplomats, not laparotomy!!

## 10.6 Comments

I feel my knowledge in this area to be lacking.

I really don't know what this question refers to

Need will probably increase

Not sure I understand this statement

do not have enough insight to comment in a valid way (but question requires an answer, i.e. please discard my selection)

Need will probably increase

More a policy issue. Diplomats need an opinion but most will not be able to influence.

not sure I understand what aspects of biotech you mean here

## 11.1 Comments

I would often use expert help with this.

Basics for understanding every day data

This is a very important area but not all practitioners need to be expert in it- but the expertise needs to be present in the industry and profession.



## 11.2 Comments

Be able to critique a paper VIP

For the everyday practicing vet it is important to know the principles and read a paper critically to judge the evidence, not critical that they can do the sample size calculations etc themselves

Critical evaluation of research is an essential skill for the specialist - often the specialist is required to interpret research in order to inform other vets and farmers in a balanced and non-biased manner.

See comment above.

Whilst I don't use this knowledge very often in clinical practice, I found during the residency that this type of foundational knowledge was extremely useful in interpreting study results and therefore indirectly informed treatment decisions.

Important to judge scientific papers/findings

Important in academia to understand the evidence base (studies) and plan experiments, but not very relevant in practice. Basic concept should be understood, but not everyone likes statistics or has the opportunity to get training!

Research skill; important but not a key part of my current role

Important to understand this at level of diplomate

### 11.3 Comments

Necessary when evaluating research papers.

To develop if necessary. In France it exist an special authorization to perform research study in animals.  
This competency will develop with the formation

For me important as a senior researcher but for people mainly working clinically not that important, but  
basic knowledge needed to correctly judge scientific findings (evidence based medicine)

Important in academia but not for diplomates in practice

May not be required unless actively managing studies.

If Diplomats are not involved in research this is only needed in outline.

## 11.4 Comments

The importance of this particular skill varies depending on the role of the specialist - obviously more important for those directly involved in research. Still important also for critical evaluation of research.

I would get expert advice on this when necessary.

There are specialists to ask

It is more important to know one's limits and to seek appropriate support from epidemiologists and/or statisticians rather than making inappropriate decisions in the design of a study or analysis of data (the specialized statistical knowledge requested for epidemiological studies cannot be expected from every bovine herd health specialist)

Usually you have a statistician to help you do this correctly because it can be hard!



## 11.5 Comments

more applicable for academic and practicing vets

poorly understood, in my opinion, by many.

needed to interpret herd data

This is essential to providing sensible advice to farmers

Essential to be able to evaluate papers and data that you may be presented with.

## 12.1 Comments

VIP to monitor success of treatments and patient care.

we have regular mortality and morbidity rounds

Where would you EVER be able to learn this skills? This kind of quality management is important but rarely performed in vet practices or even academia, except for in big corporate practices maybe...?

This is growing in importance and is essential for diplomate

Sample size makes such audits difficult and I think review is important but audit may not be as valid as some are suggesting in small vet clinical practice.

## **12.2 Comments**

I am a vet in practice!

key skill for continuous learning, which is what diplomates should do

### **13.1 Comments**

Should have basic knowledge of EMA regs

We all have a responsibility in this area.

A 'hot topic' across the world that will affect all aspects of livestock farming

This is one of the most important issues facing the industry and we must be completely on top of this and able to lead by example.



## 13.2 Comments

See comment above.

Every prescription should take account of MRLs

### **13.3 Comments**

If have access to experienced lab services, make use of those as vets cannot be competent in everything as a practicing vet in general this is not done in-house but sent to labs or done by specialists in a lab

See comment above.

Not necessarily important for all diplomates. But it is essential that a knowledge of proper labs is used to make sure results can be trusted and are understood.

### **13.4 Comments**

more commonly used in sheep

See comments above.

small ruminants often

I would carry out this more so in sheep aspects of my job than cattle



### **13.5 Comments**

all vets should be considering this every time they prescribe ABs

See comments above



### **13.6 Comments**

Medicine audits are now a requirement for many farms in the UK

Usually as part of a milk-purchaser audit.

Important to understand also to be able to interpret data from national AB monitoring

Important to be able to understand this concept.

### **13.7 Comments**

more of an academic point

Unless employed specifically in a role that requires it, knowledge of antimicrobial use in areas outside of the one in which the specialist is working is probably unnecessary. Some understanding is important, but not in-depth knowledge.

My work is essentially limited to England although impact on export markets needs to be appreciated.

Need to know what is done where one works

National context and meeting local rules possible more important but Diplomats should influence own country to have best practice.



### **13.8 Comments**

more commonly discussed with farmers who are increasingly aware of the issue and vets should be able to advocate for the industry so this is important from at least those 2 perspectives

See comments above.

Data is not very clear so difficult to say that you need to know.





## **14.1 Comments**

basic understanding of the principles only required other than for specific scenarios eg: anthrax investigation.

I would seek advice from microbiology specialists when necessary.

Important if not expert in this area to work with labs and others who are.

Need to understand results and be prepared to question rather than perform yourself.

## 14.2 Comments

more relevant for clinical practitioners

Helpful for prescribing

Probably insufficiently understood.

When prescribing have to consider action for different drugs

Its more important to dose and use drugs in accordance with technical instructions provided.

If we are to treat then understanding concepts is important if we every do something different from the datasheet authorised dose.

### **14.3 Comments**

This is performed in Switzerland by agro-specialists not vets.

Would be Job specific

Not sure I understand "water analysis" but we do silage analysis or soil analysis

An expert can be used if required

#### **14.4 Comments**

important to choose the most appropriate tests

often poorly understood.

Its very important that the significance of lab tests is understood.

## 15.1 Comments

Sample quality will affect accuracy of test

Poor samples means poor results which may lead to erroneous conclusions.

an essential basic skill

Detail can be looked up. Principles need to be known.



## 15.2 Comments

See comments above.

May vary depending on country and lab test availability. Difficult to decide how to examine because of this. Some appreciation of the best tests available internationally can be expected from a diplomat but maybe for not all diseases. A 50% ass mark!

### **15.3 Comments**

VIP in Johnes control

to students and farmers

Again, specialists should be in a position to critically evaluate any available evidence, including laboratory results.

See comments above.

Mainly to explain farmers



## 15.4 Comments

More relevant in individual animal work

This is, I think, a personal weakness.

Diplomat may take the analysis of pathologist but needs to know sufficient to question and put into clinical context.

## 15.5 Comments

More relevant in individual animal work

See comments above.

Important in cases with unclear clinical findings

Quite a few different fluids here, more frequent for milk & urine, rare for synovial fluid

I do this for teaching and think principle needs to be understood but detail can be looked up. I do not think detailed criteria should be remembered for the examination.

## 16.1 Comments

More relevant in individual animal work

With the exception of reproductive ultrasound, rarely used on farm in England.

Ultrasonography (repro, calves) very important x-rays a bit less.

Some more frequently than others e.g. US very frequent, radiographs - rarely

Ultrasonography only

## 16.2 Comments

More relevant in individual animal work

never: Endoscopy

Who uses X-rays or endoscopy in the field? These look like just geared towards people working in university hospitals, which is a small proportion of bovine veterinarians.

I use reproductive ultrasonography every day but rarely use the other imaging modalities.

ultrasonography only

will become more and more important

Ultrasonography almost everyday (both rectal and some sector)

Other tasks are performed rarely in UK field practice

Lots of reproductive ultrasonography but otherwise the others are much less frequent

Repro US - very often, endoscopy - never

Reproductive ultrasound very important and regularly used. Others may not be so important.

US and RX

will become more and more important

with the exception of endoscopy. This is not routinely in use in the UK in cattle

U/S much more important than X-ray / Endoscopy

I would often use ultrasound, rarely use x-ray and never use laparoscopy

Ultrasonography only

not endoscopy

## 17.1 Comments

VIP in individual and herd health situations

particularly calves

In farm only sometimes? In vet school often

Room for improvement

Not performed because it is not my area of activity (academia)

Not allowed in some countries

Important but can be left with apthology experts in many situations.



## **17.2 Comments**

In collaboration with pathologists (academia)

Only possible at an official pathological institution (diagnostics center or similar)

Use of pathology experts is a good possibility

### **17.3 Comments**

We mainly work with pathologists but there we also discuss these issues.

i.e. zoonotic diseases that could pose a risk when opening the carcass

## **18.1 Comments**

A significant role of any vet, and especially a specialist, is protection of public health.

Without an appreciation of this and being a cost-effective part of the farm team I would not have a role!

Why is public health in one question together with finances and productivity? I would have liked to rate them differently....

## 18.2 Comments

See comment above.

We try to improve this point, important but not practiced regularly

This relates to an earlier point?

Extremely important for your client.

### **18.3 Comments**

In routine practice never, done in some research studies.

Not performed often because it is not my primary area of activity (academia)

I think diplomats should be aware of this and bring it into their discussion with clients. formal calculations may become more important in the future.

## **19.1 Comments**

The end outcome of our industry is a safe food product, vets are key in ensuring this.

vets should be able to advocate for the industry and contribute to public confidence and awareness

Again, protection of public health is vital.

Vets have an integral role in maintaining the safety of the human food chain.

I advise a supermarket but do not see this as a role for all diplomats.

## 19.2 Comments

not commonly used but important when you do

### **19.3 Comments**

This is performed in Switzerland by other specialists not vets.

not commonly used but important when you do

This is an integral part of my job.



## 20.1 Comments

Basis of most farm health and welfare standards schemes  
particularly transport to slaughter etc

Maintaining good welfare is implicit in my job.

Swiss Legislation

Isn't this the overall aim of what we do?!

Non EU country, but important to know Swiss legislation

Never because not practising in EU member state

Its essential that we are aware of and able to act on this

I often find that the legislation falls behind welfare recommendations and as such most farms are a level above this.

NO EU legislation - but the one in our country

## 20.2 Comments

Is a knowledge of relevant legislation necessary to promote good welfare?

Non EU country, but important to know Swiss legislation

Never because not practising in EU member state

### **20.3 Comments**

This is performed in Switzerland by other specialists not vets.

On-farm slaughter of animals destined for the human food-chain is now rare in England.

Non EU country, but important to know Swiss legislation

Never because not practising in EU member state

Essential that we can give information and advice on this and reassure consumers.

Reputation of vets depends on not getting things wrong in this emotive situation.

## **20.4 Comments**

A daily consideration.

Non EU country, but important to know Swiss legislation and in case of importation of drugs and vaccines (with special permit) important

Never because not practising in EU member state

## **20.5 Comments**

Often a legal requirement.

Non EU country, but important to know Swiss legislation

Never because not practising in EU member state

## **21.1 Comments**

vets in practice should have an idea of how to do this although the academics should make evidence more available to practicing vets as practicing vets often lack time to do this frequently.

Interpreting evidence in a rational and balanced way, and implementing knowledge in the field, is crucial.



## **21.2 Comments**

Important also to translate key findings to practitioners and farmers!

These skills are important for keeping knowledge up to date but not hugely relevant for practicing vets  
often a body of papers or topic rather than one specific paper



### **21.3 Comments**

more commonly in teaching students than communication to farmers

Keeping up to date is important.

Important if needed not in the sense of "I know everything"

but not detail

Importance in sense of digesting and applying recent literature. NOT required is being able to quote details from papers, cite author and source etc.

## 22.1 Comments

Not enough attention on this in the whole industry / vet school courses; just starting to pick up recently

We need to be able to communicate effectively at all levels.

It is pointless being an exceptional vet if you cannot communicate with clients and other stakeholders

Often needed but hardly trained in the veterinary field

Communication is very important but not everyone is good at it - they can still perform well despite this

Depends on the area the Diplomat is working. I am not sure this should be a required competence in the examination.

## 22.2 Comments

trying to incorporate more into my everyday work.

See comment above.

Always in consulting

More training needed

Motivation for change is not easy to create

This is incredibly important but may not always be a formally taught science. But very useful if it is.

Not sure that it should be part of the examination.

Interesting area

### **22.3 Comments**

Very important to be able to communicate to initiate change!!

This IS the job of a 1st opinion practitioner.

Effective communication allows dissemination of knowledge, which is an important role for the specialist.

See comment above.



### **23.1 Comments**

This is performed in Switzerland by other specialists not vets.

I would seek expert advice when necessary.

Vets don't have much influence on what breeders want

Breeding goals are not necessarily health goals

## **23.2 Comments**

This is performed in Switzerland by other specialists not vets.

See comment above.

May be more important in the future than I think now