THE DIPLOMA IN CATTLE HEALTH AND PRODUCTION

SPECIFIC GUIDANCE NOTES FOR CANDIDATES
[These notes must be read in conjunction with the B1 General Guidance Notes to Candidates]

MEMBERSHIP OF THE ROYAL COLLEGE OF VETERINARY SURGEONS

1. It is a requirement of the Cattle Health and Production Board that ALL Candidates entering for the Diploma are Members of the Royal College of Veterinary Surgeons (MRCVS).

SPECIFIC EXPERIENCE

2. The standard of this examination will be high and will prove a tough hurdle totally different in concept from the relatively straightforward Certificate examination. Candidates will need to engage in extensive private studies. Anyone contemplating enrolment should realise that it will entail organising their personal workload so that they can take time off to study, either on a regular basis each week, or for short periods throughout the year. This applies particularly to candidates in general practice.

3. Candidates must have spent a period of time, as defined in paras. 6 and 7 below, by the time of the examination, having substantial involvement in the field of cattle health and production.

4. Substantial involvement is defined as at least 30 hours per week dealing with and advising on cattle disease, health and production, visits to farms for this purpose, diagnostic work, epidemiological investigations, research, literature reviews, preparation of reports, papers and articles and time spent in related activities. The Board would expect that a candidate would be involved in a variety of these activities, and would advise all candidates to ensure that they have spent sufficient time in practice before attempting the examination.

5. Candidates may gain experience for a Diploma:

   (a) at an approved centre for their subject
   or
   (b) at an approved practice.

Approved Centre Route

6. Applications for approval of a Centre must be made directly by the Centre to the RCVS and not by the candidate. An application form can be obtained from the RCVS.
7. Candidates following an approved training programme at an approved centre will not be permitted to enter for the examination until they have been Members of the College or held an approved veterinary qualification for at least four years and are required to offer experience in the subject over at least four years.

Approved Centres for Cattle Health and Production

8. The following establishments have been granted Approved Centre status.

| CENTRE                                      | DIPLOMATE/ SPECIALIST       | STATUS                        | APPROVAL
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Farm Animal Practice University of Bristol</td>
<td>Dr A J Bradley MA VetMB DCHP PhD DipECBH M MRCVS</td>
<td>Re-Approved November 2007 Expires November 2012</td>
<td>YES</td>
</tr>
<tr>
<td>University of Glasgow</td>
<td>Mr D C Barrett BVSc BSc DBR DCHP DipECBH M MRCVS</td>
<td>Re-Approved November 2007 Expires November 2012</td>
<td>YES</td>
</tr>
<tr>
<td>Division of Livestock Health and Welfare</td>
<td>Dr R F Smith BVSc BSc PhD DipECBH M MRCVS</td>
<td>Approved November 2007 Expires November 2010</td>
<td>YES</td>
</tr>
<tr>
<td>University of Liverpool</td>
<td>Dr J N Huxley BVetMed PhD DCHP DipECBH M MRCVS</td>
<td>Approved November 2009 Expires November 2014</td>
<td>YES</td>
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Approved Practice Route

9. There is no separate application form other than the candidate applications forms enclosed within this information pack. Practices are approved for each individual candidate.

10. The Board has discretion to increase the requirements for experience for any candidate above the minimum specified if it is considered to benefit the candidate.

11. Experience accepted for the Certificate will count towards the experience required for the Diploma, at the discretion of the Board, whether the candidate is at an approved centre or an approved practice.
12. Candidates following the approved practice route will not be permitted to enter for the examination until they have been Members of the College or held an approved veterinary qualification for **at least five years** and are required to offer experience in the subject over either:

(a) **at least five years including 200 days spent at an approved centre,**
    OR
(b) **at least six years** if gaining experience solely at an approved practice.

13. There is provision for a candidate to choose a subject for a dissertation, **either Beef Cattle** or **Dairy Cattle,** to be submitted as part of the Diploma examination, and this would reflect any particular interests.

14. It would be rare for the Diploma examination to be taken four years after graduation. Rather, it would normally be taken some four or five years from the time when the candidate began to become involved full-time in cattle health and production - and this would probably have been two or three years (or more) after graduation.

**THE EXAMINATION**

15. The examination consists of three sections:

   i. A Dissertation
   ii. **TWO x 3 hour written papers,** and
   iii. a clinical, oral and practical examination.

**SUBMITTED WORK FOR EXAMINATION**

**Dissertation**

16. Candidates must apply on Form E1B for approval of the proposed subject of the dissertation by **1 November.** No exemption is permitted.

17. Candidates may **not** use all or part of the work prepared and submitted for another postgraduate qualification (including the Diploma of Fellowship) as all or part of their dissertation for an RCVS Diploma.

**Format**

18. Candidates may base their dissertations on original material and data and incorporating personal observations, on a subject to be approved beforehand by the Board. The subject may be a research project in any aspect of cattle health and management, or the evaluation of preventive medicine or disease control schemes in which the candidate is personally involved.
19. It is obviously of advantage to the candidate to have as much time as is available to write the dissertation, after having obtained approval of the subject.

20. Candidates are asked, when proposing a subject, to give an outline showing clearly what the dissertation will cover and how much of the work will be undertaken by the candidate personally.

21. Three copies of the dissertation are required. Dissertations need not be bound but should be submitted in a cover in a secure manner. The dissertations of successful candidates will be placed in the RCVS Library for a period of five years. Each Dissertation should, therefore include a loose-leaf statement:

'Dissertation submitted as part of the requirements for the examination for the RCVS Diploma in Cattle Health and Production' - and should bear the candidate's name.

Candidates are asked to submit an electronic version of their submitted work together with their hard copy. This will be retained at RCVS unless requested by the examiners for purposes such as checking the word count. The electronic version should be Microsoft Office 2000 or XP compatible and should be submitted on CD. Please ensure that the disks are easily identifiable by placing them in an envelope with your name, and ‘Electronic version of submitted work for Diploma in Cattle Health and Production’ marked clearly on the front.

**Word Count**

22. A word count must be shown on the front cover of the Dissertation. A dissertation should be between 5,000 - 10,000 words in length (excluding references and appendices) and should not exceed 10,000 words in total.

**Grading Scheme**

23. The submitted work will be graded “Good Pass”; “Pass” or “Fail”.

24. **Good Pass** - the Dissertation will be lodged in the RCVS Library as a suitable example for future candidates.

25. **Pass** - The Dissertation is acceptable to allow the candidate to proceed to the remaining sections of the examination, but the work must be revised by the date of the clinical, oral and practical in order that it can be lodged in the RCVS Library if the candidate is successful in the examination as a whole.

26. **Fail** - The Dissertation is judged to be of an inadequate standard for the Diploma, and the candidate will not be allowed to proceed to the remaining sections of the examination in the year in question.
**WRITTEN EXAMINATION**

27. Candidates are warned that answers should be given specifically and that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey. In addition, the Examiners will take into consideration spelling and whether or not the question has been answered in the form requested.

**Format**

28. This section consists of 2 x three-hour written papers.

   **Paper I** - will cover the whole syllabus, and will consist of six questions of which five are to be answered.

   **Paper II** - will be set on either Dairy Cattle or Beef Cattle and will consist of two long questions (2 x 45 mins) and ten compulsory short-answer questions (10 x 9 mins).

**Marks Scheme**

   - **Paper I** will be marked out of 50 marks
   - **Paper II** will be marked out of 50 marks
   - Total Mark for this Section (b) = 100 marks

**CLINICAL, ORAL AND PRACTICAL EXAMINATION**

**General Format**

29. This section of the examination may last up to three hours for each candidate. Candidates should expect to be questioned on any area of the syllabus and their in-depth subject and would be best advised to gain an idea of the format and content of the examination from candidates or examiners from previous years.

30. Candidates who do not demonstrate competence in basic clinical and practical skills will fail the clinical, oral and practical examination.

31. Questions may be asked in relation to their dissertation submitted, and on any part of the syllabus including the subject chosen for in-depth study.

**Specific Formats**

32. An example of what this section of the examination may contain is as follows:

- Reproductive cases for examination and discussion
- Lame cases for examination and discussion
• Calves for examination and discussion of calfhood diseases and their treatment
  and prevention.

Marks Scheme

33. The total marks for this Section (c) = 100 marks

Syllabus and Reading List

34. A detailed syllabus is provided. The examination will be set at a level appropriate to a
  veterinary surgeons who has been engaged in cattle health and production to the extent
  indicated above.

35. Candidates are required to select either (a) beef cattle or (b) dairy cattle in which to be
  examined in depth in one of the written papers and may expect some in-depth questions
  on the selected option during the oral examination.

36. There are is no separate reading list for the Diploma as candidates at this level are
  expected to be familiar with all literature in the area of their elective and most particularly
  so in the topic of their dissertation. In view of the increased access to the internet, and
  ready availability of on-line literature searches, candidates will be expected to do their
  own research and are encouraged to seek advice on suitable reading matter from their
  advisers and through the RCVS Library and Information Service.

Advisers

37. Candidates will need to take advice from their adviser on the requirements of the
  syllabus, and on any experience a candidate might need to obtain in respect of aspects
  of the syllabus. Such experience might be gained by spending time in a veterinary
  school or other appropriate institute, coupled with work in the field.

38. Applicants are asked to select a name from the back of the RCVS Register of Members of
  those Members who hold a Diploma qualification in Cattle Health and Production for
  informal advice on their studies and preparations for the examination. The Board will
  put the applicant in touch with an appropriate senior colleague if required.

39. Advisers may also oversee candidates' private studies, and the writing of dissertations,
  and the use of literature and data and the preparation of reports. It is for the candidate
  to make contact with his/her adviser, and travel to meet him/her if appropriate.

Attendance at Short Courses

40. There is provision in the byelaws to make attendance at short courses compulsory for
  those wishing to take the Diploma examination. The Board is not, for the time being at
  least, introducing such a compulsory requirement, but it will advise candidates, when
they enrol, of any additional training which, in the Board's opinion, would be of benefit to them, and will give advice on where this can be obtained.

MEMBERSHIP OF VETERINARY ASSOCIATIONS/SOCIETIES

41. Enrolled candidates are encouraged to become a Member of the British Cattle Veterinary Association and attend meetings.

ABBREVIATION FOR QUALIFICATION

42. Successful candidates are permitted to use the abbreviation "DCHP" after their names in the RCVS Register of Members, and on practice plate, stationery, etc. Certificate holders who obtain the Diploma in the same subject cease to use the Certificate abbreviation.

GENERAL GUIDANCE NOTES FOR DIPLOMA CANDIDATES ON THE PREPARATION OF A DISSERTATION

The dissertation should be presented in the normal format for a scientific article unless there are strong reasons why this is not appropriate: any different format should be approved by the supervisor before the first draft is produced.

The normal sections are:

**Introduction**

This should include a brief review of the literature on the subject giving appropriate references. References may be cited in one of two ways e.g. 'Smith and Brown (1993) found that parasites increased in July' or 'Previous studies have shown that parasites increased in July (Smith and Brown, 1993)'.

It should be a critical review to indicate what is already known and where the gaps are in our knowledge which you have set out to remove. At the end of the introduction, it should be possible to say 'In the light of the literature I have reviewed, the aims of this study are to plug the following gaps by carrying out the following work' or something to the same effect!

**Materials and methods**

This should include an account of the animals or flocks or specimens used and the experimental methods and techniques you have used in order to obtain your results. There is no need to give details of well-known techniques but it is important that a reader should be able to repeat the work and certainly be able to decide on the reliability of your techniques, which obviously affect the value of your results. If you use techniques developed by other people, you should refer to a book or journal where the details are published.

**Results**

There should be a logical description of what you have found by the techniques you have described. This section may benefit by the inclusion of tables, graphs, figures or photographs which should have captions which are sufficiently self-explanatory to stand alone, though they should also be referred to in the appropriate part of the text. This section should not contain any comments on the significance of the results or to any inconsistencies or problems encountered.

**Discussion**

This section should contain a critical discussion of the significance of the results and of the extent to which the aims described in the introduction have been achieved. It should also relate the new findings to previous work and it may therefore be necessary to quote again some of the papers cited in the introduction but for a different purpose. In the introduction, it was to show where the gaps were, here it is to show how your results agree, disagree or add to the previous work. Any conclusions or new ways of tackling the problem should be indicated here.
References

Unfortunately, there are a number of different ways used by different journals to list references in this list, so it isn't possible to lay down the one correct way! Since you might also wish to write your work as a paper for a journal, however, it is best to use a style which can be adapted to any journal, which means that the reference should be cited in full as follows:


A very careful check should be made to ensure that the references in the text are exactly the same as those in the list. (Trying this out on articles in any journal will give you a good idea as to the care with which the articles are edited by the authors or the journal).

Acknowledgements

This section gives you the opportunity to thank anyone who has helped with the work or the dissertation.

Appendices

If there is a great deal of detailed data such as laboratory findings, it may be helpful to place most of it in appendices with only summaries such as mean values in the results section.
I. Candidates should have a detailed knowledge of the following:

A. Those diseases of cattle which are commonly encountered in the United Kingdom and Europe, including their cause, epidemiology, prevalence, pathology, differential diagnosis, diagnosis, treatment, control and prevention. Zoonoses and their implications.

B. Welfare

Ethics and animal use. Cattle needs and the 5 freedoms. Codes of recommendations for the welfare of cattle. Bodies involved in cattle welfare.
Legislation affecting cattle welfare.
Advantages and disadvantages of intensive and extensive systems at all stage of production.
Welfare in relation to stockmanship, housing nutrition and breeding.
Welfare standards on the farm, during transport, in the market place and at the slaughterhouse.
Care and welfare of sick and injured cattle. Transport of casualty cattle.
Impact of biotechnology on welfare.

C. Notifiable diseases of cattle and their legislation.

D. Zoonoses

Zoonoses order - cattle diseases transmissible to man. Main signs in man.
Cattle, prevalence, epidemiology, pathology, signs.
Diagnosis, differential diagnosis, treatment, control.

E. Diagnostic methods including -

- Clinical examination
- Case recording
- Post-mortem examination
- Collection and preservation of samples for laboratory examination
- Routine diagnostic laboratory techniques
- Ultrasonography
F. Structure and economics of the industry
   Cattle population, economic, marketing and other factors influencing same
   Feed industry and other supporting industries - source, variation in supplies and
   cost of feed
   Cattle marketing, slaughtering methods and meat processing and inspection
   Milk composition, methods used for testing milk and meat, methods to alter
   constituents
   Review of dairy and beef costings
   A knowledge of current trends in the beef and dairy market place

G. Rearing animals - indoors and outdoors
   Diseases, causes, epidemiology inc. prevalence, pathology, clinical signs, diagnosis,
   differential diagnosis, treatment and prevention
   Economic consequences of diseases and cost of disease control.

H. Genetic improvement of stock, elementary statistics
   Heritability of characteristics, selection for characteristics
   Breeding programmes, economic assessment of genetic gain
   National testing - performance and progeny. Advantages and problems
   Hereditary and congenital diseases
   Health control in relation to breed improvement and its constraints
   Gene introduction and health risks

I. Immunity and vaccination

J. Epidemiology
   Philosophy and use in disease control
   Critical analysis of scientific papers

K. Therapeutics and prophylactic medication

L. Production systems (types and underlying principles)
   Types of cattle housing
   Types of growing animal housing
   Systems of housing for beef and dairy cows
   Various systems used for rearing calves and growing cattle
   Systems for beef and dairy production
   Welfare aspects, identifying problems and their solution

M. Calf disease
   Economics
   Prevalence, causes, epidemiology, pathology, signs of disease especially enteric
   and respiratory
   Diagnosis, differential diagnosis, treatment, control and prevention
N. Nutrition

Anatomy, physiology and principles of normal digestion
An understanding of current principles of diet formulation
Basic nutritional requirements of the cow at different ages and stages of production
Common dietary constituents, used in compounding rations
Various commonly used methods of conservation
The more commonly used feeding regimes for dairy and beef cows
Feed supplements and additives - nutritional, medicinal and growth promotional
Nutritional deficiencies, signs, epidemiology, their diagnosis, correction and prevention
Metabolic profiles
Methods of food dispensing

O. Reproduction

Anatomy, physiology, surgery, obstetrics and reproduction
Normal and abnormal reproductive behaviour
Artificial control of reproduction
Husbandry aspects of reproduction - principles of bull usage and cow management for efficient reproduction
The effects of nutrition on reproduction
Pregnancy diagnosis and examination of the reproductive tract and foetuses
Diseases of the reproductive tract and their treatment
Factors influencing oestrous detection rate
Infertility in the cow
Problems during pregnancy
Normal parturition and obstetrical problems including surgery
Common causes of reduced herd reproductive performance
Recording basic reproduction data, basic methods for investigation and correcting lowered reproductive performance
Interpretation of records, organisation of fertility control schemes, cost and cost effectiveness
An understanding of the principles of AI and embryo transfer, its advantages, disadvantages and uses. Methods of collection, monitoring inseminators, organisation of AI
Infertility in the bull and clinical examination
The need for competent use of ultrasonography for reproductive matters

P. Mastitis

Prevalence, causes
Factors influencing condition
Diagnosis, treatment, control and prevention
Q. Lameness
   Prevalence, causes, epidemiology, pathology, signs
   Diagnosis, differential diagnosis, treatment, control and prevention

R. Disease control programmes, principle and method of application on an international,
   national, multiple herd and individual herd basis, export and import certification.
   Disinfection and disinfectants.
   Formulation and monitoring of a detailed herd health plan.

S. Herd health and preventive medicine schemes including microcomputer uses.

T. Surgery and Anaesthesia
   Knowledge of common techniques

II. The candidate must offer either of the following subjects in which to be examined in
    depth:

   i) Beef
   ii) Dairy.

Originated 1988
Revised June 1990
Revised February 1994
Revised October 1997
Revised November 2001
Candidates should note that the reading list for the Cattle Health and Production was frozen in 2002 and will eventually be withdrawn. Candidates are expected to research the literature for themselves and are recommended to make use of the RCVS Library and Information Service for this purpose (http://www.rcvslibrary.org.uk, e-mail - library@rcvs.org.uk or telephone 020 7222 2021). Candidates should also seek advice on suitable reading matter from their advisers.

**Reading List**


Dated but easy to read.


Excellent herd health text.


Easy to read book on fertility. Terminology is now not completely accepted.


In-depth book on lameness but hard to read. It does contain useful references.

Easy to read and can be used to supplement other books, such as Blood and Radostits.

A good guide to fertility.


Very useful introduction to herd health.


**WELFARE


Well worth reading.


A good section on husbandry.

In addition to the above, **Certificate candidates are advised to read relevant articles such as:

“In Practice” Veterinary Record
Publications from the British Cattle Veterinary Association including Cattle Practice, The Veterinary Clinics of North America, UK Vet.

Also


**Legislation Affecting the Veterinary Profession in the United Kingdom (£8.00) available from RCVS.

**Diploma candidates: Journals such as Journal of Dairy Science and others.

**Highly recommended
Other books are good for background and reference.
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<tr>
<th>PB Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>4661</td>
<td>Treatment and Prevention of Mastitis in Dairy Cows</td>
</tr>
<tr>
<td>0074</td>
<td>Codes of Recommendations on Welfare of Livestock (Cattle)</td>
</tr>
<tr>
<td>0621</td>
<td>Farm Fires: Advice on Farm Animal Welfare</td>
</tr>
<tr>
<td>1147</td>
<td>EMSERGENCIES ON Livestock Farms</td>
</tr>
<tr>
<td>1151</td>
<td>Lameness in Beef Cattle and Dairy Followers</td>
</tr>
<tr>
<td>1381</td>
<td>Guidance on the Transport of Casualty Farm Animals</td>
</tr>
<tr>
<td>2531</td>
<td>Summary of the Law relating to Farm Animal Welfare</td>
</tr>
<tr>
<td>2594</td>
<td>Explanatory Guide to the Welfare of Animals (Slaughter or Killing)</td>
</tr>
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<td></td>
<td>Regulations 1995</td>
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<tr>
<td>3335</td>
<td>Improving Calf Survival</td>
</tr>
<tr>
<td>3426</td>
<td>FAWC Report on the Welfare of Dairy Cattle</td>
</tr>
<tr>
<td>4020</td>
<td>Lameness in Dairy Cattle</td>
</tr>
<tr>
<td>4516</td>
<td>TB in Cattle - Reducing the Risk</td>
</tr>
<tr>
<td>4517</td>
<td>Farm Biosecurity – Protecting Herd Health</td>
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Copies of the above and other publications can be obtained, free of charge, from:-

DEFRA Publications
ADMAIL 6000
London
SW1 2XX
Tel: 0645 556000

Also
SI 1709 Welfare of Livestock (Amendment) Regulations 1998 is available from HMSO (price £1.55).
Details of the veterinary practice in which experience has been or is being gained towards meeting the requirement of at least five calendar years of substantial experience prior to entry for the examination for the **Diploma in Cattle Health and Production**:

(If more than one practice please photocopy this form and complete in respect of each such practice)

1. Name of practice and address

2. Date of joining the practice

   (and date of leaving if you are no longer employed at this address)

3. Numbers of veterinary surgeons usually working in the practice

4. Approximate percentage time of practice and applicant devoted to:

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<tr>
<th>Practice</th>
<th>Practice</th>
<th>Applicant</th>
</tr>
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<tbody>
<tr>
<td>a. Cattle clinical work</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>b. Cattle herd health work (e.g. routine visits)</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>c. Cattle advisory work</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>d. No. dairy herds seen on routine visits</td>
<td></td>
<td></td>
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<tr>
<td>e. No. beef herds seen on fertility visits</td>
<td></td>
<td></td>
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<tr>
<td>f. No. of beef finishing herds attended</td>
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</tbody>
</table>
5. Description of your work insofar as cattle health and production is concerned (in relation to the syllabus):

6. Brief description of your other duties:

7. Any special equipment or facilities to which you have access in relation to your work and studies:

Signature ___________________________ Date ________________________

PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES
PLEASE ENSURE THAT YOU COMPLETE A FORM E1 (TO BE FOUND IN THE COMMON DOCUMENTS) AND ATTACH IT TO THIS FORM

Specialisation and Further Education

DIPLOMA IN CATTLE HEALTH AND PRODUCTION

(For use where a candidate has not previously applied for approval)

Dissertation

Application to be completed and returned to the RCVS, Belgravia House, 62-64 Horseferry Road, London SW1P 2AF no later than 1 November in the year prior to that in which it is planned to enter for the examination.

1. NAME in full (block letters)

2. PROPOSED TITLE FOR DISSERTATION giving a brief outline

Candidates may not include work, which has already been included in a submission for any other RCVS postgraduate qualification unless that work forms only a minor part of the submission, the major part of which must be distinct from any previous submission for any other postgraduate qualification.

You are requested to declare which part, if any, has previously been used for another postgraduate qualification and to outline below how you propose to re-work/develop the work in respect of this Diploma.

3. PLEASE INDICATE YOUR ELECTIVE: - Beef □ Dairy □

Signature

Date

PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES

Please enclose a S.A.E. for acknowledgement
THE ROYAL COLLEGE OF VETERINARY SURGEONS

Specialisation and Further Education

DIPLOMA IN CATTLE HEALTH & PRODUCTION

Application for **FINAL** approval of experience and for permission to submit an entry to the next examination to be completed and countersigned by your Adviser before being returned to the RCVS, Belgravia House, 62—64 Horseferry Road, London SWIP 2AF by 1 NOVEMBER prior to the examination. **NO LATE APPLICATIONS WILL BE ACCEPTED**

1. **NAME** in full (block letters)

2. **DEGREES/DIPLOMAS/CERTIFICATES** in abbrev. form

3. **ADDRESS** for all correspondence (block letters)

4. **TELEPHONE NO(s)** for contact during day

   **FAX NO** for contact during day

5. **DATE OF ENROLMENT** (MONTH/YEAR)

6. **PERIODS OF EXPERIENCE OFFERED** to meet the requirements of the byelaws

   Veterinary practice or centre

   (name and address)
If there has been any change in the work-load of the practice/centre, or in your personal work—load, since you applied for enrolment, please give details below:

8. OTHER POSTGRADUATE STUDIES
   During the period of experience being offered, have you been or are you studying for any other postgraduate qualification?
   
   YES / NO
   
   If YES, please give brief details:

9. SUBMITTED WORK
   DISSERTATION TITLE — please confirm your title below:

   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

   Has an outline been submitted on Form EI.B and approved by the Board? YES / NO
10. ATTENDANCE AT RELEVANT SHORT COURSES OVER PAST THREE YEARS (Not already included on your CPD Record Card).

Title of course attended:

Dates and venue:

11. ATTENDANCE AT CONGRESSES, SYMPOSIA, ETC. OVER PAST THREE YEARS (Not already included on your CPD Record Card).

List any attendances at relevant congresses, conferences, meetings, symposia, etc., with dates:

Please send a photocopy of your RCVS CPD Record Card covering the period of experience being offered.

12. I HEREBY APPLY FOR FINAL APPROVAL OF EXPERIENCE AND FOR PERMISSION TO SUBMIT AN ENTRY TO THE NEXT DIPLOMA EXAMINATION IN CATTLE HEALTH AND PRODUCTION.

I certify that the period of experience being offered has not been/is not being offered to meet the requirements of the byelaws for any other RCVS Certificate or Diploma.

13. CONFIRMATION OF INTENT TO SIT THE EXAMINATION

If approval of experience is granted, I do / do not (delete as appropriate) intend to submit an entry to the next examination (closing date for receipt of entries is 1 March).

Signature ___________________________ Date ___________________________

PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES
THE FOLLOWING SECTION SHOULD BE COMPLETED BY YOUR ADVISER

I confirm that I am acting as this candidate’s Adviser

Name ___________________________ Date ___________________

Signature ________________________ Date ___________________

Please enclose a SAE for acknowledgement
DIPLOMA IN CATTLE HEALTH AND PRODUCTION ADVISER LIST

Candidates should consult the RCVS Register of Members for a suitably willing and qualified individual (someone holding a Diploma or equivalent) who is familiar with the RCVS Diploma examination system and clinically active.

For ‘Role of Advisers’ see Common Documents
THE ROYAL COLLEGE OF VETERINARY SURGEONS
DIPLOMA IN CATTLE HEALTH AND PRODUCTION

TUESDAY 7 JULY 2009

PAPER 1
(whole syllabus)
(3 hours)

Candidates are required to answer **FIVE** of the following **SIX** questions.

Allow 36 minutes per question.

**Illegible handwriting or failure to answer the questions in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.**

---

1. ‘Non Steroidal Anti-Inflammatory Drugs (NSAIDs) are greatly underused in cattle medicine’.

   **Discuss** this statement with reference to the available products for use in the United Kingdom and the situations in which these may be used.

2. ‘Failure of heat detection is fast becoming the biggest fertility issue on dairy farms’.

   **Discuss** this statement with particular reference as to why this might be and possible solutions to the problem.

3. A farm has suffered an abortion storm in a group of dry cows, which has been diagnosed by immunohistochemistry to be due to Neospora caninum. 20% of the herd has aborted and the farm is now considering buying in some recipient heifer replacements into which to implant embryos from some of the genetically superior cows diagnosed to be Neospora infected.

   **Discuss in detail** a management plan to control the effects of Neospora in this herd and detail the considerations that ought to be taken regarding the purchase of the replacement recipient heifers.

4. Write a **brief review** of the routinely available diagnostic tests for paratuberculosis (Johne's disease) with particular reference to their sensitivity and specificity.

   How can these tests be employed to investigate the disease status of individuals and herds and to assist in herd eradication?

---

P.T.O. for Questions 5 and 6
5. Clinical and sub-clinical mastitis in first lactation cows during early lactation is a problem in some herds. What might be the reasons for this and how can the problem be investigated and controlled?

6. **Outline** the records and assessments you would feel necessary to monitor lameness on farm.

**Discuss** the **advantages and disadvantages** of the various approaches you would instigate and **briefly outline** how you may assess such collated records to better understand lameness on farm.

**********
SECTION A

Candidates are required to answer BOTH of the following TWO questions.

Allow 45 minutes per question.

Illegible handwriting or failure to answer the questions in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.

1. On 12/12/08 you are presented with the information shown in the Table overleaf from the referring veterinary surgeon of the owner of a suckler herd who is convinced that he has an intractable Bovine Viral Diarrhoea (BVD) problem affecting the fertility of his cattle.

[See ALSO, data in Tables 1, 2, 3 and 4 overleaf]

Outline your differential diagnoses of the causes of sub-fertility in order of likelihood and an investigation plan to confirm or refute these.
**Case history:**
The herd consists of approximately 80 suckler cows and has suffered from subfertility since Spring calving 2007 as illustrated in Table 1. Calving occurs mostly in the Spring. Before this time the reproductive performance of the herd was satisfactory. The herd has been correctly vaccinated against Leptospirosis for 12 years.

**July 2007:** Too many cows were seen returning to oestrus.
**11/11/07 and 1/12/07:** The breeding stock were vaccinated against BVD using Pregsure BVD™ (Pfizer Animal Health).
**14/11/07:** Five homebred young stock aged 10-12 months were tested for antibody to BVD virus and all were seropositive.

**February 2008:** bull 'Utwo' went to a bull stud and semen testing proved satisfactory.

**11/2/08 to 25/5/08:** Spring 2008 calving was completed with no cases of dystocia.

**04/05/08:** Eight first calvers bought in with 3-month-old calves at foot to supplement numbers of Spring 2008 calvers.

**26/08/08:** a herd test for BVD was carried out which identified one PI calf (born on 10/10/07). As a part of this test the 2008 Spring-born calves were all tested for antibody to BVD (table 4) and seronegative animals were tested for BVD virus antigen by ELISA with negative results in all cases. The precise dates of birth of the calves were not available but the range was known from the calving spread and their ear numbers allowed them to be placed in likely age order.

**28/08/08:** the three stock bulls were preputial washed for Campylobacter bacteriology with negative results.

**November 2008:** scanning of Spring 2008 calving cows breeding group gave disappointing results (Table 1). Of the 8 bought in first calvers, 7 were in-calf; of the homebred first calvers only 1/6 was in-calf. Of 30 cows calving Spring 2007 and 2008 only 22 were in-calf. Two Spring 2007 calvers that failed to conceive for calving in Spring 2008 and Autumn 2008 were both pregnant.

**December 2008:** Pregsure BVD booster administered to all breeding stock and primary course to heifers.

**Bull policy:**
There are three stock bulls:
- **Rufus:** born JAN 01, bought FEB 03 - not used elsewhere before purchase
- **Albert:** Born APR 06 bought JUN 07 - not used elsewhere before purchase
- **Utwo:** Born Feb 04 bought NOV 07 - used as a stock bull elsewhere previous to purchase

During the breeding period the bulls are rotated between mating groups at three weekly intervals. The bulls are not routinely semen tested.

**Biosecurity audit:**
Part of the farm perimeter adjoins farms with cattle of unknown disease status but the fences are stock proof. No biosecurity precautions are taken with bought-in stock. Previously-bred cows were bought-in in May 2008.
Table 1: Summary of reproductive performance

<table>
<thead>
<tr>
<th>Year</th>
<th>Cows – Spring Calvers</th>
<th>Cows – Autumn Calvers</th>
<th>Heifers – Spring Calvers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>calved: 55 (18/5-14/8)</td>
<td>Mated: 60 (19/5-18/8)</td>
<td>10 (24/4-14/7)</td>
</tr>
<tr>
<td></td>
<td>in-calf: 53</td>
<td>barren: 37</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>% mated in-calf: 96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>calved: 53</td>
<td>Mated: 60 (19/5-18/8)</td>
<td>7 (21/4-18/7)</td>
</tr>
<tr>
<td></td>
<td>in-calf: 37</td>
<td>barren: 5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% mated in-calf: 62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>calved: 44</td>
<td>Mated: 56 (18/5-21/7)</td>
<td>12 (18/4-)~</td>
</tr>
<tr>
<td></td>
<td>in-calf: 35</td>
<td>barren: 21</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>% mated in-calf: 63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Bulls rotated 21/6 and 13/7 ~ Albert

Table 2: Spring 2008 calvers: calving spread analysis

<table>
<thead>
<tr>
<th>week</th>
<th>no. calved put to bull</th>
<th>pregnant cows</th>
<th>barren cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>27</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>4-6</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>7-9</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10-11</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>44</td>
<td>26</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 3: Spring 2008 calvers: age analysis

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>no. calved put to bull</th>
<th>pregnant cows</th>
<th>barren cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>15#</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
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<td>3</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
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<td>1</td>
</tr>
<tr>
<td>11+</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>56</td>
<td>35</td>
<td>21</td>
</tr>
</tbody>
</table>

# 5/6 homebred 1st calvers barren; 1/8 1st calvers bought in (with 3-month old calves at foot) barren

P.T.O. for Table 4
### Table 4: Spring 2008 born calves BVD serology results (sampled 26/08/08)

<table>
<thead>
<tr>
<th>Sample no</th>
<th>Ear no</th>
<th>Age (likely descending order)</th>
<th>BVD serology Interpretation</th>
<th>% positivity (%)</th>
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<tr>
<td>51</td>
<td>616</td>
<td>93 - 196 days</td>
<td>NEG</td>
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<tr>
<td>47</td>
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<td>NEG</td>
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</tr>
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<td>50</td>
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<td>87</td>
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<td>NEG</td>
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</tr>
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<td>49</td>
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<td>93 - 196 days</td>
<td>NEG</td>
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<td>83</td>
<td>625</td>
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<td>POS</td>
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<tr>
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<td>NEG</td>
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</tr>
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<td>NEG</td>
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<td>NEG</td>
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<td>630</td>
<td>93 - 196 days</td>
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<td>NEG</td>
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<td>17</td>
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<td>18</td>
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<td>NEG</td>
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<td>NEG</td>
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</tr>
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<td>4</td>
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<td>NEG</td>
<td>4</td>
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<td>NEG</td>
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<td>NEG</td>
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<tr>
<td>3</td>
<td>659</td>
<td>93 - 196 days</td>
<td>POS</td>
<td>57</td>
</tr>
</tbody>
</table>

P.T.O. for Question 2
2. There were a number of anecdotal reports of abortion in cattle following the use of Blue Tongue (BTV) vaccines in the United Kingdom in 2008. These vaccines are currently marketed under a provisional marketing authorization (PMA). As an expert you are approached to comment on the number of abortions occurring after BTV vaccination and to draw up a prospective study protocol to determine if there is an increased risk of abortion following BTV vaccination.

Following a review of your practice data you find the practice sold approximately 125,000 doses of BTV vaccine to beef farmers last year, in the two weeks following vaccination you are aware of 15 abortions.

a. Briefly outline what you understand a PMA to be.

b. On the basis of your practice figures, comment on the rate of abortion seen in your practice following BTV vaccination (please show your workings).

c. Briefly outline, and discuss, a study protocol to determine if there is an increased risk of abortion following BTV vaccination.

P.T.O. for Section B
Candidates are required to **answer ALL** of the following **TEN** questions.

Allow 9 minutes per question.

**Illegible handwriting or failure to answer the questions in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.**

3. **List** the key factors you would address to maximise pregnancy rates when undertaking an oestrus synchronisation programme for beef heifers.

4. 'Black disease' (infectious hepatic necrosis due to *Clostridium novyi* infection) is confirmed in two bulling heifers in a suckler herd at post-mortem examination. **Outline** the advice you would give to the farmer to reduce the risk of further losses.

5. **Briefly describe** a technique for transfusing blood into a heifer that has suffered a torn vaginal artery at calving. **List** the other conditions when this technique may be indicated.


7. **List** the recognised risk factors for calf pneumonia in a group of weaned beef steers.

8. **Briefly outline** the advice that you would give to the owner of a suckler herd who home breeds replacements and is keen to reduce the incidence of dystocia in his herd by genetic means.

P.T.O. for Questions 9 - 12
9. Write brief notes, including advantages and disadvantages, of two methods of Lungworm control in a beef suckler herd.

10. Briefly outline the beef carcass classification system and illustrate the typical distribution of carcasses seen in the United Kingdom.

11. What is ‘compensatory growth’ and how can it be utilised to improve profitability in beef rearing enterprises?

12. Comment on the issues surrounding administration of multiple vaccinations to cattle e.g. Blue Tongue, Bovine Viral Diarrhoea (BVD), Leptospirosis.
DIPLOMA IN CATTLE HEALTH AND PRODUCTION

TUESDAY 7 JULY 2009

PAPER II
(DAIRY)

(3 hours)

This paper is in two Sections (A and B)
instructions relating to the number of questions to be answered
are given at the head of each Section.

SECTION A

Candidates are required to answer BOTH of the following TWO questions.

Allow 45 minutes per question.

Illegible handwriting or failure to answer the questions in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.

1. The owner of a large dairy herd has asked his vet to refer a calf-pneumonia problem to you. The referring vet has summarised the problem below:

- 970 dairy cows with an even all year calving pattern resulting in 600-700 calves reared per year.
- The cows are housed all year with only dry cows having access to pasture where there is no risk of contact with cattle from neighbouring farms.
- All cattle are homebred by AI; there are no bought-in animals.
- Calves are removed from the cow to single pens where they are fed three litres of pooled colostrum from a bucket with a teat within 6 hours of birth.
- The colostrum is usually from the cow’s first milking.
- When aged 10 days calves are moved from single pens to group pens of 11 in two different air spaces, where there is a large rolling population of calves to age three-months.
- Calves are fed colostrum for 4 days then milk from cows vaccinated against rotavirus, coronavirus and E.coli F5 (K99) adhesin (Rotavec™ Corona, Intervet/Schering Plough Animal Health) vaccinated cows for 2 weeks followed by waste milk, topped up with powdered milk as necessary.
- Two litres twice daily in single pens (single bucket and teat)
- Halofuginone (Halocur, Intervet/Schering Plough Animal Health) is fed with the milk for the first 7-days of life at the licensed dose rate.

Continued over page.../
Three litres twice daily in group pens (bin with 12 teats)
Calves are vaccinated with live RSV and PI3 vaccine by the intranasal route (Rispoval RS+ PI3 intranasal, Pfizer Animal Health) when aged 7 days
Calves are moved to the group pens when aged 10 days
For the first 80-100 calves vaccinated (commencing in October 2007) this appeared to reduce the incidence of pneumonia
Now within ~ 4 days of movement ~ 70% of the calves are affected by pneumonia and some show scour.
Provided cases are treated early there is a good response to treatment but there is a significant growth set back.
Nine bull calves that have not been moved from the single pens and are not vaccinated have remained healthy to date when aged 17-24 days.
For reasons of space and labour the calves cannot normally be kept in the single pens beyond 10 days of age.
Four calves aged < 7 days were blood sampled and tested by zinc sulphate turbidity test with the following results:

Laboratory reference figure for ZST: > or =14 ZST units:

<table>
<thead>
<tr>
<th>Calf</th>
<th>ZST units</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>15</td>
</tr>
<tr>
<td>C</td>
<td>12</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
</tr>
</tbody>
</table>

Outline your initial assessment of the problem on the basis of this information and your experience of calf-pneumonia problems in dairy herds.

How would you investigate the problem further?

What possible solutions are there for this herd?

P.T.O. for Question 2
2. There were a number of anecdotal reports of abortion in cattle following the use of Blue Tongue (BTV) vaccines in the United Kingdom in 2008. These vaccines are currently marketed under a provisional marketing authorization (PMA). As an expert you are approached to comment on the number of abortions occurring after BTV vaccination and to draw up a prospective study protocol to determine if there is an increased risk of abortion following BTV vaccination.

Following a review of your practice data you find the practice sold approximately 125,000 doses of BTV vaccine to dairy farmers last year, in the two weeks following vaccination you are aware of 15 abortions.

a. Briefly outline what you understand a PMA to be.

b. On the basis of your practice figures, comment on the rate of abortion seen in your practice following BTV vaccination (please show your workings).

c. Briefly outline, and discuss, a study protocol to determine if there is an increased risk of abortion following BTV vaccination.

P.T.O. for Section B
Candidates are required to answer ALL of the following TEN questions.

Allow 9 minutes per question.

Illegible handwriting or failure to answer the questions in the form requested may result in examiners being unable to award marks for information which candidates intended to convey.

3. List the key factors you would address to maximise pregnancy rates when undertaking an oestrus synchronisation programme for dairy heifers.

4. Black disease’ (infectious hepatic necrosis due to Clostridium novyi infection) is confirmed in two bulling heifers in a dairy herd at post-mortem examination. Outline the advice you would give to the farmer to reduce the risk of further losses.

5. Briefly describe a technique for transfusing blood into a heifer that has suffered a torn vaginal artery at calving. List the other conditions when this technique may be indicated.


7. List the signs that you would expect to see in a dairy herd where cubicle compliance was poor.

P.T.O. for Questions 8 - 12
8. **Briefly outline** the advice that you would give to a dairy farmer who is keen to improve the fertility of his herd by genetic means.

9. **List** the differential diagnoses for oral ulceration in a 12 month-old black and white Holstein heifer. How would you approach a situation where a client who rears replacement heifers asks for telephone advice regarding three animals in a group of twenty showing signs of oral ulceration?

10. **Write short notes** on urine analysis in dairy cows. Include techniques for sample collection, situations when urine analysis may be useful and tests commonly done on urine samples collected.

11. **List** the signs of copper poisoning in cattle. **Outline** a suitable treatment for this condition and the circumstances under which it may occur on a dairy farm.

12. **Write brief notes** on ‘Black Spot Defect’ in Cheddar cheese.