



**AUSTRALIAN AND NEW ZEALAND
COLLEGE OF VETERINARY SCIENTISTS
FELLOWSHIP GUIDELINES
*Dairy Cattle Medicine and Management***

ELIGIBILITY

1. The candidate must meet the eligibility prerequisites for Fellowship as outlined in the *Fellowship Candidate Handbook*.
2. Membership of the College must be achieved prior to the Fellowship examination. The Membership examination may be undertaken during Fellowship training and at any time prior to the Fellowship examination, up to and including the year preceding the Fellowship examination.
3. Membership must be in Medicine of Dairy Cattle, Medicine of Beef Cattle, Veterinary Epidemiology or Animal Nutrition (Ruminant).
4. Fellowship candidates of whatever background should have been working full-time in the area of dairy cattle medicine and management for at least three years before submitting their proposed training program. This will be assessed by the TCC during the review of the candidate.

OBJECTIVES

To demonstrate that the candidate has attained sufficient knowledge, training, experience and accomplishment to meet the criteria for registration as a specialist in the area of cattle medicine and management.

LEARNING OUTCOMES

1. The candidate will have a **detailed¹ knowledge** of:

¹ Knowledge levels:

Detailed knowledge — candidates must be able to demonstrate an in-depth knowledge of the topic including differing points of view and published literature. The highest level of knowledge.

Sound knowledge — candidate must know all of the principles of the topic including some of the finer detail, and be able to identify areas where opinions may diverge. A middle level of knowledge.

Basic knowledge — candidate must know the main points of the topic and the main literature.

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- 1.1. the principles of anatomy, physiology and embryology of the gastrointestinal (including liver, spleen and pancreas), musculoskeletal, respiratory, integumentary, nervous/special senses, urogenital and reproductive, endocrine; and cardiovascular/haematopoietic/lymphatic systems as they apply to dairy cattle medicine and management
 - 1.2. the aetiology and pathogenesis, clinical signs, diagnosis, epidemiology, treatment, management, prevention and control of all the infectious and non-infectious diseases including reproductive diseases and their management that affect dairy cattle in Australia and New Zealand
 - 1.3. diagnostic tests and procedures including clinical pathology, histopathology, radiology, and ultrasound examinations as they apply to dairy cattle medicine and management
 - 1.4. anaesthesia, analgesia and intensive care (including fluid therapy) as they apply to dairy cattle medicine and management
 - 1.5. the principles of pharmacology, immunology, pathology and toxicology as they apply to dairy cattle medicine and management
 - 1.6. all aspects of the various dairy cattle production systems in Australia and New Zealand including, but not limited to, preventative medicine, management systems, the effect of nutrition on disease and reproduction, genetics, epidemiology and farm economics
 - 1.7. milk harvesting systems and their relationship with milk quality and udder health
 - 1.8. the principles of animal welfare in dairy cattle management and production
 - 1.9. public health as it pertains to farm workers, veterinarians, abattoir workers and consumers of dairy cattle products
 - 1.10. the major and significant exotic diseases relevant to cattle in both Australia and New Zealand.
2. The candidate will have a **sound knowledge** of:
- 2.1. the interactions between genetic, nutritional and environmental factors and disease
 - 2.2. dairy cattle nutrition, including pasture-based nutrition, supplementary feeding on pasture and more intensive feedlot (dry lot) dairy systems
 - 2.3. dairy farm economics, including the major profit drivers under the various production systems
 - 2.4. the principles of advanced reproductive technologies, such as the use of sexed semen, embryo transfer (involving both in-vivo derived and in-vitro produced embryos).

3. The candidate will be able to, with **detailed² expertise**:
 - 3.1. demonstrate extensive practical skills in the discipline, including cattle handling, clinical examination, history taking, diagnostic sampling, and post-mortem examination (including sample taking) and analyse this information to solve complex clinical problems and make sound clinical judgements
 - 3.2. undertake a detailed investigation to determine the cause, and implement subsequent treatment and control measures of both an individual animal- and a herd/mob-based problem
 - 3.3. critically evaluate the veterinary literature and apply this to the investigation of problems associated with dairy cattle medicine and management
 - 3.4. integrate these skills to provide high-quality care for dairy cattle with the most efficient use of resources in a manner that is responsive to a stakeholder's needs and wishes.

4. The candidate will be able to, with **sound expertise**:
 - 4.1. evaluate a dairy farm enterprise in terms of its profitability, and identify areas where improvements might lead to increased profitability
 - 4.2. evaluate the nutrition of a dairy herd, in terms of its contribution to disease and production on the farm
 - 4.3. advance knowledge in dairy cattle medicine and management through innovation, research and publication
 - 4.4. communicate effectively with stakeholders, experts in associated disciplines (e.g. nutrition, farm design), referring veterinarians and peers.

² **Skill levels:**

Detailed expertise — the candidate must be able to perform the technique with a high degree of skill, and have extensive experience in its application. The highest level of proficiency.

Sound expertise — the candidate must be able to perform the technique with a moderate degree of skill, and have moderate experience in its application. A middle level of proficiency.

Basic expertise — the candidate must be able to perform the technique competently in uncomplicated circumstances.

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EXAMINATIONS

Refer to the *Fellowship Candidate Handbook*, Section 5. The Fellowship examination has **four separate, autonomous components**:

- 1. Written Paper 1 (Component 1)**
Principles of the Subject (three hours)
- 2. Written Paper 2 (Component 2)**
Applied Aspects of the Subject (three hours)
- 3. Practical Examination (Component 3)**
Practical (two hours)
- 4. Oral Examination (Component 4)**
Oral (minimum of one hour)

The written examinations will comprise of two separate three-hour written papers taken on two consecutive days. There will be an additional 20 minutes perusal time for each paper, during which no writing in an answer booklet is permitted. In each paper you are provided with six (6) questions to answer, each worth 30 marks, giving a total of 180 marks per paper. There is no choice of questions. Questions may be long essay type, a series of shorter answer sub-questions, or multiple-choice questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

Written Paper 1

This paper is designed to test the candidate's knowledge of the principles of Dairy Cattle Medicine and Management as described in the Learning Outcomes. Answers may cite specific examples where general principles apply, but should primarily address the theoretical basis underlying each example.

Written Paper 2

This paper is designed to (a) test the candidate's ability to apply the principles of Dairy Cattle Medicine and Management to particular cases/problems or tasks, and to (b) test the candidate's familiarity with the current practices and current issues that arise from activities within the discipline of Dairy Cattle Medicine and Management in Australia and New Zealand.

Practical Examination

This examination further tests the candidate's achievement of the Learning Outcomes listed earlier. The practical examination will be for a minimum of two hours with eight (8) main questions worth 15 marks for a total of 120 marks. The questions may include, but not limited to, audio-visual presentation of images, written presentation of clinical material, evaluation of clinical pathology results and pathology reports, and examination of dairy cattle and dairy cattle production facilities by the use of images. The method(s) by which the candidate will deliver their response to questions include report writing, statistical analysis, or analysis of production or reproductive records.

Oral Examination

This examination further tests the candidate's achievement of Learning Outcomes, listed earlier. The oral examination will be for a minimum of one hour with four (4) main questions. Each question will be worth 25 marks for a total of 100 marks. The questions may include, but not limited to, audio-visual presentation of images, verbal presentation of scenarios, written presentation of clinical material, evaluation of clinical pathology results, and evaluation of pathology reports.

TRAINING PROGRAMS

Refer to the *Fellowship Candidate Handbook*, Section 2.3

Directly Supervised Training (DST) Residency Program

Directly Supervised Training involves regular, in-person, one-on-one contact between the candidate and supervisor. The candidate should have daily access to the supervisor. A minimum requirement for directly supervised training is that at least once a week there should be a formal meeting between the candidate and supervisor to review work in progress.

This directly supervised training may be provided by full-time formal training programs, which are residency-style programs that involve at least two years of full-time directly supervised training (DST). These programs are undertaken at a location with suitable facilities, case material, and supervisor(s). Training will involve structured periods of study, clinical experience and research in an academic environment. The candidate has face-to-face access to the supervisor(s) for five days of the week. Both the candidate and the supervisor must spend at least 25 hours per week working in the discipline (i.e. a full-time DST [five days per week] requires a minimum of 96 weeks for completion).

Alternatively, a remote directly supervised training program (outlined below) may be submitted for approval.

Remote Directly Supervised Training Program

A remote direct supervised training program comprises 96 weeks of supervised training made up of:

- 88 weeks of remote directly supervised training (including a minimum of 8 days of directly supervised training)
- Four weeks of directly supervised training in related disciplines
- Four weeks of directly supervised externship.

Remote Direct Supervised Training Component

The training program will include a minimum period of 88 weeks (440 working days) of remote direct supervised training (RDST) in the primary discipline of Dairy Cattle Medicine and Management. RDST is defined as the candidate working in their own workplace and their activities being overseen by a supervisor in a different location. This will involve regular, one-on-one, daily (i.e. on working days, but not necessarily exclusively restricted to those days) contact between the supervisor and the candidate either in person, by telephone or internet conferencing (email, skype, web-based discussions or other appropriate technologies). The purpose of this meeting is for the candidate to receive support and advice about cases they have been managing. Daily contact with the supervisor will be recorded in a **‘Daily Contact Diary’**. On occasions, when daily contact cannot be made, the reason for this failure shall be recorded in the daily contact diary.

The candidate and supervisor will meet formally once every seven days either in person, by telephone or synchronous internet conferencing. This meeting will be formally documented in the **‘Weekly Meeting Report’**. Case information and data/images related to all cases from the previous week shall be transferred from the candidate to the supervisor prior to the meeting in order to ensure a complete and thorough review of each case. The purpose of this meeting is for the supervisor to become familiar enough with the case details that they can make an independent judgement of the appropriateness of the candidate’s decisions and actions and provide feedback. Cases that the supervisor feels can be adequately understood without direct observation may be included in the remote supervision activity log.

All of this information should be retained digitally by both the candidate and the supervisor so that it can be reviewed by the CEC.

Direct Supervised Training (DST) Component

The candidate and supervisor will meet formally for a minimum of two days once every six months to co-visit facilities and to review the performance of the candidate. This meeting will be formally documented in the **‘Co-visit Report’**.

Additional Requirements

The candidate must actively participate in electronic journal club, resident seminars or teaching rounds and record this in the credentials document.

A minimum of two seminar presentations must be made by the candidate during the training period and reported in the credentials document. A seminar is defined as a scientific presentation attended by peers and followed by informed discussion lasting for a minimum of

15 minutes. The candidate must attend relevant scientific meetings and conferences; attendance at a national veterinary conference is recommended. The credentials document must show documentary evidence that the candidate has prepared and presented at least one scientific paper at a national or international veterinary conference.

REPORTING RDST

Daily Contact Diary (Appendix 1)

Candidates must maintain a diary of all activities and contact with the supervisor. This diary must be submitted after the first three months then with each annual supervisor report for review by the Chapter CEC.

Weekly Meeting Report (Appendix 2)

The weekly meeting report details the date of the meeting and the nature and the outcome of each weekly discussion. This report must be signed by the supervisor and submitted after the first three months then with each annual supervisor report for review by a member of the Chapter CEC.

Activity Log Summary RDST (Appendix 4)

This report must be signed by the supervisor and submitted after the first three months then with each annual supervisor report for review by a member of the Chapter CEC.

Activity Log (Appendix 5)

A six-month section to be submitted for assessment by the CEC at any stage after the first twelve months of training.

REPORTING DST

Co-visit Report (Appendix 3)

The co-visit report details the cases seen during direct supervised training while completing a RDST training program. This report must be signed by the supervisor submitted with each annual supervisor report for review by a member of the TCC.

Activity Log Summary DST (Appendix 4)

The activity log summary shall be kept for cases associated with both direct and remote direct supervised training. The activity log summary should be signed by the supervisor.

Activity Log (Appendix 5)

A six-month section signed by the supervisor to be submitted for assessment by the CEC at any stage after the first twelve months of training.

CASE MINIMA

Herd cases

Fifty herd cases are required to be seen during the training period, of which two must be directly supervised. A herd case is defined as any individual assessment which leads to an investigation or change in management for the entire group.

Recommended herd categories and minima for Activity Log:

- Mastitis: 5
- Reproductive: 5
- Nutritional: 5
- Metabolic: 5
- Lameness: 5
- Toxicological: 5

Individual cases

Five hundred individual animal cases are required to be seen during the training period, of which thirty-five must be directly supervised.

Examples of individual categories and recommended case minima

It must be stressed that the individual conditions listed below are examples only, and that the candidate will be expected to have experienced a much wider range of conditions than is listed below. The candidate needs to be able to demonstrate that he/she has worked over a very wide range of conditions.

- **Lameness 50 cases:** sole abscess, white line disease, sole ulcer, digital dermatitis, sole penetration, axial and abaxial cracks.
- **Sick cow 100 cases:** (20 DST) made up of the following categories:
 - **GI tract:** diarrhoea, displaced abomasum, torsion/volvulus, abomasal ulceration, other GI accidents such as intussusceptions and phytobezoar (at least two DST GIT surgeries)
 - **Respiratory, cardiovascular, head and neck:** pneumonia, traumatic reticuloperitonitis/pericarditis, actinobacillosis, ocular disease
 - **Neurological:** infectious, toxic, nutritional deficiency, heritable, congenital, traumatic
 - **Liver:** facial eczema, liver fluke, liver abscess, hepatotoxicities
 - **Urinary tract:** pyelonephritis, cystitis, nephrosis, urolithiasis, toxicities
 - **Skin:** dermatophilosis, ringworm, papillomatosis, bovine papular stomatitis, photosensitisation, ectoparasites

- **Metabolic 100 cases:** hypomagnesaemia, hypocalcaemia, hypophosphataemia, pregnancy toxaemia, ketosis, fatty liver/fat-cow syndrome, transit tetany, downer cow
- **Reproductive 100 cases:** endometritis, retained foetal membrane, septic metritis, anoestrus, cystic ovaries, congenital abnormalities
- **Obstetric 50 cases:** malpresentations, caesarian operation, different methods of delivery, uterine prolapsed, other obstetric surgeries, foetotomies
- **Neonatal 50 cases:** enteric disease, gastrointestinal accidents such as abomasal torsion and abomasal bloat syndrome, neurological disease, respiratory disease, growth disorders including ill thrift

Note. The procedures listed in each category above are examples. Candidates need not necessarily accomplish these examples nor restrict themselves to these examples. The candidate will be expected to gain as broad a range of experience as possible. A narrow range of experience within each category will not meet the minimum requirements.

TRAINING IN RELATED DISCIPLINES (TRD)

Refer to *Fellowship Candidate Handbook*, Section 2.4.2.

Candidates for Fellowship in Dairy Cattle Medicine and Management must undertake the following training in related disciplines:

- Ruminant nutrition: two weeks DST
- Pathology, especially bovine post-mortem examination: one week DST
- Epidemiology: one week (*Note.* ONLY this one week TRD can be completed as RDST)

EXTERNSHIPS

Direct Supervised Training as per the *Fellowship Candidate Handbook*, Section 2.4.1.

PUBLICATIONS AND PRESENTATION

Refer to the *Fellowship Candidate Handbook*, Section 2.10.

Candidates are required to submit two original, first-author, scientific, peer reviewed publications in peer reviewed journals. At least one of these publications must be of an original research project.

In addition, candidates are required to present at a national or international conference. Presentations must be a minimum of 12 minutes in length and the presentation must be reviewed by an organising or abstract committee prior to acceptance.

Candidates are encouraged to present in Australia and New Zealand at the following conferences: The Australian Cattle Veterinarians Conference, the cattle stream of the Australian Veterinary Association conference, College Science Week and the New Zealand Dairy Cattle Veterinarians Annual Conference. As these conferences don't have a formal review process for presentations, candidates that elect to present at these conferences will need to submit their conference paper for pre-approval to a review committee prior to presenting at the proposed conference. The review committee will ideally be comprised of two current fellows of the Cattle chapter but may comprise current Cattle chapter members where deemed appropriate by the CEC.

RECOMMENDED READING LIST

The candidate is expected to research the depth and breadth of the knowledge of the discipline. This list is intended to guide the candidate to some core references and source material. The list is not comprehensive and is not intended as an indicator of the content of the examination.

Core Texts³

Anderson DE & Rings DM. *Current veterinary therapy: food animal practice 5*. Saunders Elsevier, 2009.

Divers TJ & Peek SF Rebhun's Diseases of Dairy Cattle, 2nd edn Saunders Elsevier 2008.

Fubini SL & Ducharme NG. *Farm animal surgery*, 2nd edn. Saunders Elsevier, 2016.

Green M et al. *Dairy Herd Health* CAB International 2012

Greenough PR & Weaver AD. *Lameness in cattle*, 3rd edn. WB Saunders, 1997.

McKenzie R. *Toxicology for Australian veterinarians*. CD published by RA McKenzie, Brisbane, Australia, 2002.

Noakes DE, Parkinson TJ & England GCW. *Veterinary reproduction and obstetrics*. 9th edn. Saunders Elsevier, 2009.

Nutrient requirements of dairy cattle. 7th rev. edn. (2001). National Academy Press, Washington, DC, 2001.

Parkinson TJ, Vermunt JJ & Malmø J. *Diseases of cattle in Australasia – a comprehensive textbook*. VetLearn, New Zealand, 2010.

Constable PD, Hinchcliff KW, Done SH and Grunberg W. *Veterinary Medicine* 11th Edition. Elsevier 2017

³ **Core textbook** – candidates are expected to own a copy of the textbook and have a detailed knowledge of the contents.

Recommended textbook – candidates should own or have ready access to a copy of the book and have a sound knowledge of the contents.

Additional references – candidates should have access to the book and have a basic knowledge of the contents

Additional Reading Materials - These are conference proceedings, other non-refereed publications and other journals that would offer some information in the subject area including differing points of view, but are not required reading.

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Radostits OM, Mayhew IG & Houston DM. *Veterinary clinical examination and diagnosis*. W.B. Saunders, 2000.

Radostits OM. *Herd health, food animal production medicine*. 3rd edn. WB Saunders, 2011.

Risco, C & Melendez, P. *Dairy production medicine*. Wiley-Blackwell, 2014.

Smith BP. *Large animal internal medicine*. 5th edn. Mosby Elsevier, 2014.

Core Journals⁴

Australian Veterinary Journal

Bovine Practitioner (and the Proceedings of the American Association of Bovine Practitioners)

Journal of Dairy Science

Journal of the American Veterinary Medical Association

New Zealand Veterinary Journal

Newsletter of the Australian Cattle Veterinarians

Newsletter of the Dairy Cattle Veterinarians of the NZVA

Preventive Veterinary Medicine

Proceedings of Dairy Cattle Veterinarians of New Zealand (annual conference)

Proceedings of the Australian Cattle Veterinarians (annual conference)

Proceedings of the National Mastitis Council (annual conference)

The Veterinary Journal

Theriogenology

Veterinary Bulletin

Veterinary Clinics of North America: Food Animal Practice

Veterinary Record

ADDITIONAL REFERENCES

Textbooks

Andrews AH, Blowey RW, Boyd H & Eddy RG. *Bovine medicine: diseases and husbandry of cattle*. 2nd edn. Blackwall Science, 2004.

⁴ **Core Journal** – candidates are expected to have ready access to either print or electronic versions of the journal and have a detailed knowledge of the published articles in the subject area.

Recommended Journal – candidates should have ready access to either print or electronic versions of the journal and have a sound knowledge of the published articles in the subject area.

Additional Journal – candidates should be able to access either printed or electronic versions of the journal and have a basic knowledge of the published articles in the subject area.

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- Cockcroft, P (editor). *Bovine medicine*. 3rd edn. Wiley-Blackwell, 2015.
- Coetzer JAW & Tustin RC. *Infectious diseases of livestock* (3 volumes). Oxford University Press, 2004.
- Everist SL. *Poisonous plants of Australia*. Angus and Robertson, Sydney, 1974.
- Greenough PR. *Bovine laminitis and lameness*. Saunders Elsevier, 2007.
- Hall LW, Clarke KW & Trim CM. *Veterinary anaesthesia*. 10th edn. WB Saunders, 2001.
- Haskell SRR. *Blackwell's five-minute veterinary consult: ruminant*. Wiley-Blackwell, 2008.
- Hendrickson DA. *Techniques in large animal surgery*. Blackwell Publishing Limited, 2007.
- Holmes CW, Brookes IM, Garrick DJ, Mackenzie DDS, Parkinson TJ, Wilson GF, et al. *Milk production from pasture – principles and practices*. Butterworths Massey University, 2002.
- Mayhew J. *Large animal neurology*. 2nd edn. Wiley-Blackwell, 2009.
- McDonald P, Edwards R, Greenhalgh JFD & Morgan CA *Animal nutrition*. 7th edn. Pearson Education Limited, 2015.
- Nicholas FW. *Introduction to veterinary genetics*. Blackwell Publishing Limited, 2003.
- Noordsy JL & Ames NK. *Food animal surgery*. 5th edn. Veterinary Learning Systems, Yardley, Pennsylvania, 2014.
- Nutrient requirements of domesticated ruminants*. CSIRO Publishing, 2007.
- Parton K, Bruère AN & Chambers JP. *Veterinary clinical toxicology*. 3rd edn. Publication No 249, VetLearn Foundation, Massey University, Palmerston North, New Zealand, 2004.
- Scott DW. *Color Atlas of Farm animal dermatology*. Wiley-Blackwell, 2007.
- Sloss V & Duffy JH. *Handbook of bovine obstetrics*. Williams and Wilkins, Baltimore, 1980.
- Stockham SL & Scott MA. *Fundamentals of veterinary clinical pathology*. 2nd edn. Wiley-Blackwell, 2008.
- Youngquist RS & Threlfall WR. *Current therapy in large animal theriogenology 2*. Saunders Elsevier, 2007.

Journals

Candidates may also need to refer to the following journals from time to time.

American Journal of Veterinary Research

Animal Reproduction Science

Canadian Journal of Veterinary Research

Journal of Animal Science

Journal of Comparative Pathology

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Journal of Dairy Research
Journal of the South African Veterinary Association
Journal of Veterinary Diagnostic Investigation
Onderstepoort Journal of Veterinary Research
Proceedings of the World Buiatrics Conferences`
Veterinary Microbiology
Veterinary Parasitology

FURTHER INFORMATION

For further information, contact The College Office

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Herd Cases							
Case log							
<i>Category</i>	<i>Case ID</i>	<i>Presenting problem</i>	<i>Investigation</i>	<i>Diagnosis</i>	<i>Treatment and management</i>	<i>Outcome</i>	Feedback from Supervisor

APPENDIX 3: CO-VISIT REPORT

Dairy Cattle Medicine and Management Co-visit DST Case Report					
Individual animal cases					
Case log					
<i>Category</i>	<i>Case ID</i>	<i>Presentation</i>	<i>Diagnosis</i>	<i>Treatment and management</i>	<i>Outcome</i>
*Lameness	Thompson #1	L rear lameness, deficit in white line after grinding	WLD	ground back sole, cut out WL deficit, shoe applied to good hoof	resolution in 3 weeks
Respiratory/head and neck	Burge #2	swelling around submandibular, swollen tongue	Actinobacillosis of tongue	Sodium iodide IV, parenteral oxytet	resolution in 2 weeks, swelling dissipated
GIT	Marks #1	off milk, decreased appetite, ping LHS ribs	LDA	non-surgical toggle inserted	returned to milk and appetite in 2 weeks
Herd Cases					
Case log					

<i>Category</i>	<i>Case ID</i>	<i>Presenting problem</i>	<i>Investigation</i>	<i>Diagnosis</i>	<i>Treatment and management</i>	<i>Outcome</i>
Mastitis	Coombs #1	increase in clinical cases and NIR based on ICCC	countdown MIP protocol	strep ag predominant pathogen, increased impacts due to poor cluster removal and plant performance	retrain staff, correct milking plant issues	drop in NIR in 4 weeks
						drop in clinical case rate in 4 weeks
						drop in BMCC

APPENDIX 4: ACTIVITY LOG SUMMARY

Dairy Cattle Medicine and Management Activity Log Summary															
DST Cases															
Category	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Current Total	Previous Total	Cumulative Total
Current Total															
Previous Total															
Cumulative Total															

RDST Cases																
Category	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Current Total	Previous Total	Cumulative Total	

APPENDIX 5: ACTIVITY LOG (TEMPLATE)

	DATE (S)	*CATEGORY	ANIMAL/HERD	PROBLEM DEFENITION	PROBLEM-SOLVING AIDS	SOLUTION PROPOSED	OUTCOME	**INITIALS
		<i>e.g. species, organ system, type of activity</i>	DETAILS					
227	3/08/2019	Bovine	Nehls Brother	Increased respiratory disease in calves	Record analysis	Recommended changing from mattress to sand in free stalls	Comments were accepted by owner and will be undertaken over time when money and labour is available.	MI
		Reproduction	2000 cow HF free stall dairy	Poor transition	Herd test analysis	Adjustment of sprinklers in order to direct water properly		
		Transition management		Poor bunk utilisation	Stall evaluation	Decrease crowding in far off dry pen and change free stalls (too short)		
		Heifer management		Poor housing	Housing evaluation	Increase pen size in calf sheds, adjustment of fans to proper speed.		
					Respiratory scoring	Increased detection and early intervention in calf pneumonia by using respiratory scoring sheet		

					Calf total protein	Increase effectiveness of colostrum management		
					Ventilation assessment			
228	6/08/2019	Bovine	Ripps Dairy	Evaluate calf barn, transition management, free stall design	Record analysis	Some failure of passive transfer evident-recommended adjust colostrum collection and feeding times	Comments given to owner will be assessed by the University of Wisconsin vets in 2 months.	MI
		Transition management	1800 cow HF free stall		Herd test analysis	Some overcrowding in pre fresh barn		