

<b>Ref. No.</b>	<b>C –C.5</b>
<b>Title:</b>	<b>Cattle – Bovine Reproduction</b>
<b>Category and Value:</b>	<b>C - 10 Credits</b>
<b>Notional Study Hours:</b>	<b>100</b>

Candidates working towards the designated Certificate in Advanced Veterinary Practice (Cattle) will need to complete the following modules: A-FAVP.1 Foundations in Advanced Veterinary Practice, B-PAP.2 Production Animal Practice, C-C.6 Cattle – Bovine Mastitis and Lameness and at least two other Cattle C modules (from C-C.4, C-C.5 and C-C.7) plus one other C module which may be a fourth cattle module. Upon completion of all the necessary modules, a further synoptic assessment will also be required.

### **Aims**

The aim of this module is to enable the candidate to consolidate and increase the depth of clinical knowledge and skills gained at undergraduate level, so that they can systematically apply this knowledge to the management of the fertility of dairy and beef herds. The candidate will be able to critically evaluate their own standards of practice and develop strategies for continuous improvement in the future.

### **Learning Outcomes**

At the end of this module delegates should be able to:

1. Apply in-depth knowledge of the management and monitoring of fertility in dairy and beef herds;
2. Critically evaluate the role of the veterinary surgeon in planned cattle fertility management and production;
3. Explain normal reproductive function in dairy and beef cows and bulls
4. Have in-depth knowledge of the artificial manipulation of reproduction and its legislation; be able to apply this knowledge to dairy and beef herd management.
5. Plan the reproductive management of dairy and beef herds
6. Write professional reports and fertility plans for farmers and/or veterinary surgeons
7. Evaluate bull proofs and understand the principles of genetic selection for beef and dairy breeding; be able to advise upon the pre-breeding assessment of a bull and carry out evaluation of a bull's suitability for breeding purposes
8. Use knowledge of the causes of infertility in cows and bulls to evaluate reproductive performance of the herd and the individual and diagnose the cause of poor fertility in herds
9. Understand the legislation relating to the health, management, and welfare of cattle and food production in the UK

### **Module content**

- Normal ovarian cycle including endocrinology and pharmacological control
- Reproductive management and reproductive disease (Dairy and Beef)
- Normal parturition, dystocia and puerperal disorders
- Induction of calving
- Postpartum return to cyclical activity (Dairy and Beef)

## C-Cattle.5

- Reproductive problems, congenital abnormalities, acyclicity, poor pregnancy rates
- Oestrus detection, methods, problems and measurement
- Synchronisation – methods and its uses in Dairy and Beef herds
- Timing of service and Natural service versus AI
- Normal pregnancy rates (Heifer and adult cows)
- Sire selection
- Artificial Insemination:
  - Organisation of AI in the UK and the bodies involved with AI
  - Current legislation, semen collection and storage
  - AI techniques including DIY
  - Reasons for poor fertility with AI
- Embryo Transfer:
  - Code of practice and legislation relating to ET
  - Applications and methods of ET
  - Embryo preservation and micromanipulation, karyotyping and twinning
- Methods of pregnancy diagnosis
- Expectations for fertility, measuring fertility and accepted reproductive targets (Dairy and Beef cows)
- Monitoring fertility and fertility control schemes (Dairy and Beef herds).
- Use of the ELISA milk progesterone assay in monitoring reproduction
- Detailed examination of the female reproductive tract including ultrasonography and its uses and application
- Prenatal death and abortions
- Selection for breeding

### **The bull**

- Genetic selection: a knowledge of the genetic assessment of dairy and beef bulls
- Bull selection to minimise dystocia
- Reproduction: puberty and time of onset
- Normal structure and function of the genitalia
- Causes and investigation of infertility in bulls
- Breeding soundness examination, including collection and assessment of semen
- Surgical preparation of teaser bulls

### **Assessment strategy for this module**

- One herd-specific health/management plan (1500), concentrating on breeding and fertility policy to be produced by the candidate for a cattle farm they have direct contact with.
- A case book of two cases, each of up to 1500 words length. These cases should be selected to demonstrate the candidate's ability to use the competences that have been acquired to cope with a challenging situation, rather than using classic "textbook cases" of particular conditions.
- Short answer test and or MCQs (1 hour)