Reference Number	C-C.5
Module Title	Bovine Reproduction
Category and Value	C – 10 credits
Study Hours	100

Introduction

The focus of this module is bovine reproduction and fertility. It is recommended that candidates complete Foundations of Advanced Veterinary Practice (A-FAVP.1) prior to this module, as they provide essential postgraduate training in literature critique and evidence-based medicine and fundamental training in reflective and evidence-based writing, and clinical reasoning, required for case-based assessments.

The candidate is also expected to build on the foundation skills developed when undertaking the A and B modules, and to demonstrate progression towards advanced practitioner skills. The candidate will be able to evaluate their own standards of practice and develop strategies for continuous improvement in the future.

This is an optional module for those wishing to obtain a Certificate in Advanced Veterinary Practice (Cattle).

Aims

The aim of this module is to:
1. enable the candidate to develop comprehensive and systematic understanding of fertility in dairy and beef herds and to apply this understanding to farms under their care.
2. 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 students should be able to:

1. Apply clinical reasoning skills and evidence-based medicine in the management and monitoring of fertility in dairy and beef herds.
2. Critically evaluate the legislation relating to artificial manipulation of reproduction in the UK and how it relates to the health, management, and welfare of cattle and food production in the UK.
3. Critically analyse data sets related to bovine fertility and reproduction and communicate conclusions to a farm owner or manager both verbally and in the form of professional reports.
4. Perform an evaluation of the fertility status of the herd and communicate conclusions and advice to a farm owner or manager both verbally and in the form of professional reports, including making sound judgements in the absence of complete data
5. Critically appraise the literature relevant to clinical cases and use the literature to inform practice.

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)
- 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

Module providers are responsible for deciding on assessment strategies and methods, subject to accreditation by RCVS.