Oestrus synchronisation in ewes and does; CIDR insertion.

Recommended Instructor to student ratio 1:<35

Objective
To achieve synchronised oestrus and ovulation in a majority (large proportion) of ewes and/or does (goats) in a flock in preparation for insemination either by a ram or by artificial insemination (AI).

Alternatives to animal use for teaching
Practice on abattoir specimens prior to demonstration on ewes. Previous anatomy and associated course work.

Details of procedure
The procedure requires synchronisation of oestrus within the mob of ewes and identification of the ewes in oestrus followed by insemination of those ewes.

1. Synchronisation of oestrus
Application of intra-vaginal implants (IVI’s) containing progestagens in ewes and does.

Progesterone or compounds with progesterone-like activity (progestagens) are administered for 12-14 days; does up to 21 days. Due to feedback on the hypothalamus and pituitary, the ewes do not come into oestrus during treatment. By the end of the treatment period, the ewe’s corpus luteum will have regressed, regardless of the stage of the cycle at which treatment commenced, and cessation of the treatment should result in all ewes coming into oestrus in the next 2-3 days.

There are two ways of administering progestagens. The more common way is to insert a polyurethane sponge, pessary or controlled internal drug-releaser (CIDR) impregnated with an appropriate dose of progestagen into the vagina of the ewe. This might be applied via a specifically designed applicator, or via careful dextrous manual introduction into the ewe vagina.

The progestagen devices are removed after the designated time (typically 12-14 days after application; up to 21 days for does) by placing tension on the string or other part of the device that protrudes from the vulva. A slight vaginitis is normal, with associated discharge occasionally detected.

Less commonly, progesterone is formulated in a solid, slow-release vehicle and implanted under the skin. Ewes commence coming into oestrus 24-36 hours after removal of progesterone sponges or CIDRs (progestagen delivery device), with a peak at 48 hours, and nearly all ewes should enter oestrus by 60 hours.

If control over the time of oestrus is sufficiently precise, it is not necessary to use teaser rams/whethers and observe oestrus, the ewes being inseminated at a fixed time after sponge or CIDR removal. Usually a minority of treated ewes fail to exhibit oestrus but may still become pregnant if inseminated. The precise time of fixed-time inseminations varies with the type of synchronisation treatment and the processing of the semen, but ewes are typically inseminated at 48-60 hours post progestagen removal.

Progestagen treatment is often augmented or accompanied by either GnRH, or more commonly equine Chorionic Gonadotrophin/Pregnant Mare Serum Gonadotrophin (eCG/PMSG) at doses of 100-600 IU.

PROCEDURE
1. Dosage and Administration Insertion. Dip the device applicator into a non-irritating antiseptic solution. Place 1 device into the applicator so that the short legs of the device are folded together with only the tips protruding from the applicator. Dip the tip of the loaded applicator into a suitable veterinary obstetrical lubricant. Wipe the vulva lips with a disposable tissue and insert the loaded applicator, sloping slightly upwards, through the vulva and then forwards, without forcing, into the forward portion of the vagina. Release the device by depressing the applicator plunger leaving the cord protruding from the vulva. Repeat disinfection of the applicator before each insertion.
2. **Removal.** Withdraw the device by pulling on the removal cord.

3. **Mating.** Goats. Insert Eazi-Breed CIDR devices during the breeding season and leave in place for 18 to 21 days. The majority of does will be in oestrus approximately 48 hours after device removal. For AI using frozen semen, it is recommended that pregnant mare serum gonadotrophin (PMSG) 200 to 400 IU be given up to 48 hours before device removal. Insemination using a laparoscopic or cervical technique should be performed within 48 hours after device removal.

   Sheep. Insert Eazi-Breed CIDR devices during the breeding season and leave in place for 12 to 14 days. Ewes will be in oestrus for mating or insemination approximately 54 hours after device removal. For spring joining, it is recommended that the device be used in conjunction with PMSG 400 to 600 IU. A ram to ewe ratio of at least 1:10 is recommended for synchronised mating. For AI using frozen semen, PMSG 400 IU is recommended at device withdrawal. Laparoscopic insemination should be performed from 47 to 55 hours after device removal.

4. **Note.** With sheep and goats, the use of vasectomised rams or bucks is recommended prior to insemination.

The use of sponges or other proprietary progestagen containing intra vaginal devices is similar to that mentioned above.

2. **Identification of ewes and does in oestrus**

   Accurate and early detection of oestrus is essential. Oestrus can be detected by vasectomised rams/bucks (teasers) wearing harnesses with marking crayons. The choice of hot, cold or milk crayons is important.

   Alternatively natural service or fixed time artificial insemination (FTAI) is carried out on the ewes.

3. **Insemination**

   Natural service, detected oestrus insemination, or FTAI is carried out on the synchronised ewes/does.

**Drugs, chemicals or biological agents**

- **CIDR’s**- progesterone containing devices (Controlled Internal Drug Release)

- **Sponges**- containing flourogestone acetate, medroxyprogesterone acetate.

- Other proprietary progestagen containing devices commercially available.

- Antiseptics and paper towel as necessary.

**Impact of procedure on well-being of animal(s)**

The procedure/s is/are well tolerated in NON PREGNANT animals.

However, conception rates are variable and ewes will require special management to reduce lamb losses.

**Reuse and repeated use**

Typically the devices/drugs are only placed once at predetermined times.

Animals that are not pregnant or do not come into oestrus can be resynchronised.

**Care of animal(s) during/after the procedure**

Ewes and/or does are typically mustered and held in collecting yards/pens as necessary. They should not have excessive restrictions from food, and water should be freely available.

Adverse reactions a rare.

**Pain relief measures**

Not necessary.

Hygiene and cleanliness are encouraged.
Qualifications, experience or training necessary to perform this procedure

Operators should be familiar with the correct techniques and the anatomy and physiology of the ewe and doe before attempting this procedure.

Reference