

## Collecting semen: Electro ejaculation method for bulls

Recommended Instructor to student ratio 1:<10

### Objective

To collect semen from donor bulls which cannot be restrained for collection by an artificial vagina, or where the use of an artificial vagina is inappropriate.

### Alternatives to animal use for teaching

Video, abattoir specimens (may be difficult to obtain the whole genital system), lectures.

### Details of Procedure

The bull should be restrained so that he cannot move from side-to-side or back-and forth, preferably not in a head bail with choke bars which may place too much pressure on the cervical spine. The crush must be able to be opened at the sides to permit the bull to regain his feet or be released if he becomes recumbent. (Ideally a chest strap support should be used.) The ground surface of the crush should provide good footing. The following protocol is recommended.

1. Begin with a trans rectal examination of the bull's internal organs and a gentle massage which will relax most bulls.
2. Using the largest rectal probe that can be comfortably accommodated (usually 75mm or 90mm) ensuring the electrodes are directed ventrally, and keeping hold of it, commence stimulation at the lowest possible power setting. (Some probes have devices that assist in keeping the probe (electrodes ventrally) correctly aligned.)
3. Deliver a rhythmic stimulus - generally, on for 2-3 seconds, then off for about one second.
4. Gradually increase the power setting until the bull protrudes the penis or commences to ejaculate seminal fluid. The power may then be increased more rapidly to the point of ejaculation.
5. If the bull becomes agitated, stop stimulation and then increase the power more slowly than previously.
6. If a representative sample of semen is not collected, a further attempt may be made after a 5-15 minute interval.

### Drugs, chemicals, or biological agents

Nil - the use of tranquillisers/sedatives may increase the tendency for the bull to become recumbent.

### Impact of procedure on animal wellbeing

Although the immediate impact may appear severe, with muscle contraction and even recumbency, there is minimal impact after completion, providing due care is taken of the bull as per the protocol.

### Reuse and repeated use

Bulls may be used once a day for teaching and research but not more than twice a week. For testing purposes, don't exclude a bull on one sub-standard sample - exclusion requires three sub-standard tests at 2-3 week intervals.

### Care of animal(s) during/after procedure

During the procedure, provide shade, separate fractious bulls and keep dogs away. Do not continue stimulation if the bull becomes agitated. After the procedure, provide shade, feed and water and observe for 12-24 hours.

### Pain relief measures

None usually required. If the bull develops muscle soreness within the next day or two, a non-steroidal anti-inflammatory drug may be administered.

## **Qualifications, experience or training necessary to perform this procedure**

Demonstrator - sound experience with the procedure.

Students - thorough knowledge of bull behaviour, anatomy and experience in handling cattle.

## **Reference**

Australian Association of Cattle Veterinarians (1995) *The Veterinary Examination of Bulls*

Coffman, E.A., Whitlock, B.K., Daniels, J.A., Coetzee, H.C. (2012) Effect of electroejaculation on behavioral and hormonal indicators of stress and nociception in beef bulls *Clinical Theriogenology*

**Palmer CW.** Welfare aspects of theriogenology: Investigating alternatives to electroejaculation of bulls. *Theriogenology*, 64, 469-479, 2005

## **Relevant Links**

<https://www.dpi.nsw.gov.au/animals-and-livestock/animal-welfare/general>