

Semen collection methods

1. Collection from the vagina.
2. Massage of the ampulla.
3. Using the electro-ejaculator.
4. Using the artificial vagina.

Electro-ejaculator method

It's used in sheep, bulls and buck which are unable to jump.

Bad characteristics of this method:

- 1- The ejaculate contains urine.
- 2- The bull becomes viscose due to this method.
- 3- It needs sever training.
- 4- There is danger to the bull and the collector.

Artificial vagina method

1. The artificial vagina composed of external cylinder made of hard plastic (about 2-4 cm long, 6.5 cm in diameter). It has a valve near its end.
2. There is another thin plastic tube opened of two sides, its length about (50-55 cm) and (7.5 cm) in diameter, put inside the outer cylinder.
3. There ends are fitted to the outside the outer cylinder. So there will be a space between the two cylinders filled with hot water and air through the opening of the valve.
4. At the other end of the outer cylinder there is a funnel like structure made from thin plastic its external end fitted with centrifuge test tube to collect the semen.
5. The space between the two tubes is filled to about $\frac{1}{2}$ or $\frac{2}{3}$ with hot water of 50 c° in winter and 45 c° in summer. This makes the internal temperature of the vagina about 40 – 42 c°. Some bulls do not respond to artificial vagina until its temperature reaches 40 – 48 c°.
6. The end of entrance of penis must be lubricated for 15 cm by thin layer of Vaseline by means of a glass rod.

7. Some ear must be introduced through the valve to make suitable pressure resembling the natural vagina.
8. During collection, must use a cow in oestrus, tied in a stanchion.
9. The artificial vagina must be held by right hand declined by an angle of 45° and when the bull is completely excited and jump to serve the collector must direct the penis toward the artificial vagina by catching the distal part of the prepuce of the bull by the left hand to introduce the penis into the artificial vagina.
10. The process must be done accurately and quickly, and the collector must be well trained and quickly moved wearing suitable protecting clothes and standing in the right side of the bull.
11. After ejaculation, the artificial vagina is gently pulled and put in the vertical position to permit the semen to get into the collecting tubule after opening the valve and let the water to go outside, this important to watch the bull after ejaculation till getting down after jumping.
12. It is better that the collecting yard is very near to the laboratory of semen evaluation and preparation in order not to cause shock to spermatozoa leading to decrease the quality of the semen .

Important notes to use artificial vagina:

1. The semen collection method is regarded the most important step in the artificial insemination because the advantage from the bulls depends on this process and its successful and right way.
2. It is noticed that bulls used routinely in artificial insemination centres shows periodically some difficulties in production of semen due to gradual decrease in their sexual behaviour which may stop at the end or may give bad quality semen.

Some points should be taken in consideration before collection:

1. The used bull should prevent from eating large amount of food and water before collection at about 12 hour.
2. Good control of direction of penis toward the vagina by handling from prepuce and don't attach the penis itself.
3. Fixed time of production and semen collection of each bull.

4. If the bull refuse to ejaculate due to decrease the excitability, it is better to postponed collection for a week after changing some of the environment.

Precautions which should be taken before semen collection by artificial vagina:

1. Cleaning of abdomen by washing and drying as well as cut the hair of prepuce.
2. Never to catch the penis during collection to direct it toward the artificial vagina.
3. Using the suitable artificial vagina to each bull.
4. Good fixation of inner sheet of the artificial vagina.
5. The collection centrifuge test tube must be kept carefully from light and cold or hot by put in a water path.

Bad characteristics of artificial vagina:

1. When temperature is raised above 48c°, a shock may occurs to the bull and prevent to give ejaculate.
2. The low temperature of artificial vagina causes the bull to become sexually cold.
3. The touch of semen with the internal wall of the artificial vagina may cause heat shock to the semen leading to decrease its viability.
4. Difficulty in cleaning and disinfection of parts of artificial vagina after each collection.

Massage Method

The method involves the simplest technique of semen collection by massaging the seminal vesicles and ampulla. Undoubtedly the collector should have a considerable training to adopt the skill. This method is commonly used to collect semen from cock, turkey (tom) and dog.