

Methods of semen collection

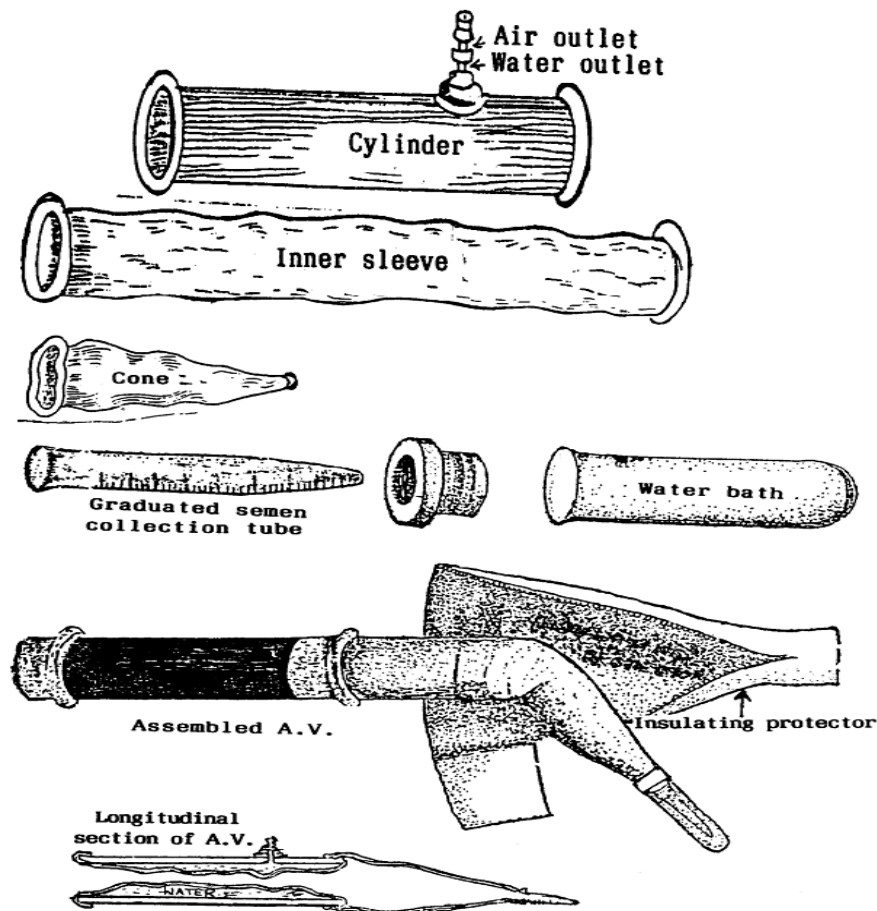
Collection of semen from male animals consider the first step in artificial insemination programs, which can be done by several methods according to the species of male animal.

1- Artificial Vagina (A.V.).

Artificial vagina (AV) are used to collect semen from many species, most prominently cattle and horses, but also sheep, goats and even cats.

Parts of artificial vagina:

- a- thick outer cylinder (casing).
- b- the inner rubber (sleeve).
- c- rubber cone or funnel.
- d- collecting graduated tube.
- e- broad rubber bands.
- f- insulating jacket.



Collection on a Live Mount



Advantages of this method

- 1- Practically the whole ejaculate is collected in uncontaminated and natural stage.
- 2- It is free from the extraneous secretions.
- 3- A sterile condition of the apparatus ensures disease control.
- 4- The viability of the sperm is better.
- 5- No female is needed if dummy is a success.

Disadvantages

- 1- Occasionally it is difficult to get the males to serve the artificial vagina.
- 2- The apparatus involved is slightly costly and requires technical hands. The following Precautions should be taken while collection of semen is made by using AV.
- 3- Protect the collection vial from sunlight by placing a black cover immediately after collection.
- 4- Avoid contamination of the semen from water, lubricating jelly or other harmful substances.
- 5- Avoid cold shock by providing adequate protection for the collection tube and funnel.
- 2- **Electro-ejaculation:**

Inserting a probe or electrode in sire's rectum and stimulating nerves of the reproductive system by gradually increasing voltage. The method is used on males of certain species where the use of A.V is not possible not practical, and also used to collect semen from bulls for A.I purpose when the bull is extremely slow in serving the A.V or physically incapable of mounting. Modern models of electro-ejaculators consist of a single rectal probe equipped with bipolar electrodes capable of producing ejaculation by electrical stimuli. The method of semen collection in bull is as follows:

- 1- At the beginning the rectum washed with 6 % sodium chloride solution.
- 2- The probe is then inserted up to about 12 inches and held in a position of rectal floor .
- 3- Alternate current increasing in voltage gradually from zero to 5 volts and returning again to zero within every 5 to 10 seconds initially -passed.
- 4- The subsequent stimulation made progressively higher so that at about fifth stimulus a maximum of 10-15 volts is reached. Erection and ejaculation occur at 10 to 15, volts when 0.5 to 1A am current is passed.

Electroejaculators. On the right an 'automatic' machine.



Advantages

- 1- Semen can be collected from males that are too young or old or unable to mount due too weak or injured legs.
- 2- No female or dummy is required for collection.
- 3- Less chance of contamination.

Disadvantages

- 1- The methods are highly technical and need considerable skill and practice.
- 2- The semen generally gets contaminated with urine.
- 3- Some males resist too much to this method and refuse collection.
- 4- Sciatic nerves are temporarily affected during the operation but is relatively minor if the electrodes are kept over the ampullar region.

3- Massage Method:

This is a good alternative for bulls that go down on electro ejaculation .

You can massage the seminal vesicles to produce an erection and the ampulla to produce ejaculation.

Disadvantages:

- 1-Semen may contaminated with urine.
- 2-Bad quality of semen.
- 3-May cause damage to rectum.

4- vaginal recovery:

means collection of semen from vagina after natural mating.

Disadvantage

1-Semen contaminated with the secretion of genital system and with bacteria.

2-Disease transmission may be occurs.

5- condom (breeding bag):

this is a thin rubber bag (sleeve) used to cover the glans penis after erection and removed after dismount.

**6- collection of semen by digital manipulation of the penis in dog:**

this method depends on application of pressure and massage for the penis.