



INCREASING CONCEPTION RATE THROUGH PROPER ARTIFICIAL INSEMINATION

(AN INITIATIVE OF GENUS BREEDING INDIA PVT. LTD. –TRADING AS ABS INDIA)

At ABS semen quality is the first priority .All semen doses produced and distributed by ABS India come in ¼ cc French mini straws and fulfil all quality criteria laid under the “Minimum Standard Protocol for Semen Production “ circulated by the Ministry of Agriculture ,Government of India.

However it is important to remember that the key to success is to follow some basic handling procedures and guidelines.

POINTS TO REMEMBER –

TIMING!!

Correct timing is very important to get the desired conception rates. This timing should be ascertained using previous breeding history of the concerned animal, symptoms of oestrous, season of the year and the ambient temperature. Insemination should always be done between mid to late heat .It would be ideal to inseminate the animal early morning or in the evening .This becomes more important under tropical conditions and in case of buffaloes which would give maximum conception when bred in the early or late hours of the day .

1. **Timing of A.I** –Record the time of inception of estrus and ascertain the proper time for insemination. It is always desirable to carry out A.I between mid to late heat. If the animal continues to show estrus symptoms even after being bred once than it is recommended to breed it again at the end of estrus .The effect of timing on conception rate is given in the table below-

Time of breeding	Conception rate from one service
Start of estrus	44.0%
Middle of estrus	82.5%
End of estrus	75.0%
6 hrs after estrus	63.4%
12 hrs after estrus	32.0%
18 hrs after estrus	28.0%
24 hrs after estrus	12.0%
36 hrs after estrus	8.0%
48 hrs after estrus	0

2. **Restrain the animal** –Restrain the animal properly so that it is allowed minimum room to move during the A.I procedure .This will not only prevent the animal from any undue injuries but is also very important for the safety of the inseminator. Hostile buffaloes can be restrained by tying their fore limbs using milker’s knot just above the knee joint.

3. **Maintain hygiene** –Equipment used during insemination like A.I gun, S.S. scissor, Forceps should be regularly sterilised using absolute alcohol/surgical spirit. Consumables used during the process like sheath and sleeves should be used afresh and disposed off after the end of the procedure. Care should be taken to wipe the vulvar lips before introduction of gun into the vagina.

4. **Maintain cold chain** –No matter how good is the quality of semen, but it will lose its vitality if we are unable to maintain the cold chain. Remember that we can never refreeze semen once it has been thawed .It is required that all the straws maintained in the tank are always dipped in liquid nitrogen. If the container has dried up or if the level of liquid nitrogen has gone below the desired level than the semen has lost its vitality and is rendered useless. It is desired to check the level of liquid nitrogen routinely with the help of dipstick. The critical level for a standard 35 lit semen storage vessel is 15 cms.

5. **Handle with care** –While taking straw out of the liquid nitrogen container utmost care should be taken not to lift the canister above the frost line. Lifting the canister above the frost line will not only start thawing the desired straw but will also thaw the rest of the straws in the canister. Quality of semen is compromised when straws are repeatedly exposed to such temperature variations.

6. **Adhere to the thawing protocol** –Thawing protocol should be religiously followed to derive optimum conception for A.I. The protocol says that once the straw is taken out of the canister using a forceps ,it should be given a mild jerk and then immediately immersed in water maintained at 37 degree Celsius. In doing so care should be taken to - fully immerse the straw in water ;use ABS thaw monitor to measure the temperature of water and not the finger and not to thaw more than one straw at a time. Ideal thawing time should be between 30-60 seconds. Air thawing /pocket thawing will lead to decrease in the conception rate or no conception at all.

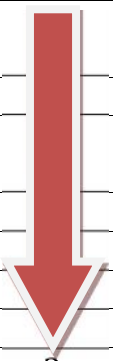

7. **Loading the gun** – Load the straw into the gun and make a clean cut at a right angle with a straight and sharp scissors/circular straw cutter just below the laboratory seal. In doing so care must be taken to cut it with a swift motion so that the cut edges are sharp. An oblique cut may lead to semen coming back into the sheath after insemination .Care should also be taken to cut the straw only in the air space. Wastage of just one drop of semen would lead to loss of a few million spermatozoa .This should be succeeded with having the disposable sheath onto the gun and locking it so that it won't move during insemination.

8. **Insemination procedure** –Clean the vulvar lips using a tissue paper and insert the gun at an angle of 30 degrees so that it may not lodge into the urethral orifice. Never allow the gun's tip to touch external coat or anus/ vulva of the animal. Hold the external os of the cervix ahead of the gun's tip and negotiate vaginal folds and cervical rings to pass the gun through the cervix till the gun's tip reaches at internal os. Feel the tip of the gun at internal os by gently moving the gun tip forward to ensure that the gun is in correct place. Be certain the gun tip is not caught in a thin area between cervical rings or vaginal folds.

9. **Correct semen deposition** – The exact site of semen deposition is the uterine body just ahead of the internal os .After getting just ahead of the internal os, push the gun piston with the thumb slowly to deposit the semen in drops and not as a jet. Gently remove the gun. Check the gun /sheath for abnormal discharge, tinge of blood or semen backflow.

10. **Maintain record** –Record all the information given on the straw for future reference after insemination. This should include the bull number as well as the batch number

SUMMARY-

MOTILE SPERMATOZOA IN MILLION	FACTORS AFFECTING CONCEPTION	CONCEPTION RATE
12-15	IDEAL CONDITIONS	70
	REPEATED STRAW EXPOSURE TO HIGH TEMPRATURE	
	INCORRECT THAWING PROTOCOL	
	NO USE OF DISPOSABLE SHEATH/REUSE OF SHEATH	
	IMPROPER LOADING OF AI GUN	
	WRONG SEMEN PLACEMENT	
	POOR ESTRUS DETECTION	
	POOR HYGIENE	
	IMPROPER HANDLING OF THE ANIMAL	
3		15