Ram Pre-Breeding Examination (PBE) On-farm Data Collection Form

Vet	Client	Date

There should be a tick, measurement, comment, or 'NE' (not-examined) in each white box.

Ear tag/tattoo/ID							
Breed							
Age							
BCS (out of 5)							
If normal then tick box. If abnormal then write comment (eg small, enlarged, soft, hard, lumpy, hot, swollen)	Teeth						
	Feet						
	Rest of body						
	Brisket						
	Prepuce						
	Penis						
	Scrotum						
	Testicles size	L	R	L	R	L	R
	Testicle tone	L	R	L	R	L	R
	Epididymis head	L	R	L	R	L	R
	Epididymis tail	L	R	L	R	L	R
Inguinal Flush/ notes							
Scrotal circumference (cm)							
Semen collection method (circle)		1st collection AV / EEJ	2nd collection AV / EEJ	1st collection AV / EEJ	2nd collection AV / EEJ	1st collection AV / EEJ	2nd collection AV / EEJ
Volume (ml)							
Gross density 0 (water) -5 (thick cream)							
Gross motility/ wave swirl (0-5)							
Progressive motility (after dilution) (%)							
Further work? *PTO for morphology*							
COMMENT							

Sperm Morphology – Examine 100 sperm & record findings below						
Ear tag/tattoo/ID						
% normal	Tally	Total	Tally	Total	Tally	Total
% abnormal head						
% detached/loose head						
% proximal droplet						
% dag-defect (tail tight coil)						
% abnormal midpiece						
% mid or distal droplet						
% tail reflexed or bent						
WBC, RBC, other cells						
Comments (inc. unlisted abnormalities)						

Physical Examination - A basic clinical examination should **always** be undertaken. If there are no abnormalities detected then the relevant box can be ticked. If there is an abnormality, a comment should be inserted. If that aspect was not examined, insert 'NE'.

Scrotal Circumference -All measurements to be made in cm at the widest point of the scrotum with a tensioned measuring tape (eg Reliabull)

Equipment - All vessels/slides used to handle semen should be warmed prior to use to 30-37^{o}C & the microscope stage kept at 35-37 ^{o}C. The semen sample should not be exposed to 'cold shock' or any sudden change of temperature. It should also not come into contact with water, contamination, disinfectants, detergents, lubricant gel or metal. Long exposure to air or direct sunlight should be avoided.

Personnel – Ideally there should be two people so that the glassware is handled by someone who is not also handling the rams. Otherwise great care should be taken (& gloves used!) to ensure no contamination which would reduce motility, morphology and outcome of the PBE.

Semen volume should be measured to the nearest 0.2ml by use of a glass pipette.

Arguably, **gross density** is not relevant when a sample is collected by electro-ejaculator. However, a figure should be given in all cases following assessment of the sample made by the naked eye.

0	**1**	**2**	**3**	**4**	**5**
Clear/water	**Cloudy water**	**Skimmed Milk**	**Full milk**	**Single Cream**	**Thick cream**

Gross motility should be assessed as a drop of semen is placed on a slide and viewed under low power.

0	**1**	**2**	**3**	**4**	**5**
Dead	**No swirl**	**Very slow swirl**	**Slow distinct swirl**	**Pretty fast swirl**	**Rapid dense swirl**
No sperm or all motionless	Some movement at edge of drop	~20-40% live sperm	~45-65% live sperm	~70-85% live sperm	~90% live sperm

Dilution should be undertaken with warmed PBS (phosphate buffered saline).

Progressive motility should be estimated preferably using phase-contrast or otherwise with a green filter & low condenser with bright field microscopy. There is a concern that the assessment of progressive motility is subjective and not consistently repeatable. (Progressive motility >60% is recommended for bulls.)

% Progressive Motility

0	30%	50%	70%	100%
Poor	Fair	Good	Very good	

Morphology should be checked on a stained smear under x1000 oil immersion. Add a tiny drop of semen to a drop of warm stain on a slide and mix for a few minutes. Use 5% nigrosine & 1% eosin or 1% trypan blue. >70% sperm should be normal.

Primary abnormalities occur during spermatogenesis and include detached heads, abnormal head shapes, dag tails (tail coiled tightly around the midpiece). Secondary abnormalities occur whilst the sperm is stored in the epididymis and are usually associated with a protoplasmic drop on the midpiece or in the loop of the tail. Bent or reflexed tails occur after ejaculation due to handling damage, hypotonic or cold shock of the semen sample.