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Bull Breeding Soundness Evaluation

Reference Tables for Evaluation of Scrotal Circumference and Spermogram

Minimum Recommended Scrotal Circumference	
Age	SC(CM)
* ≤ 15 MO	30
$> 15 \leq 18$ MO	31
$> 18 \leq 21$ MO	32
$> 21 \leq 24$ MO	33
> 24 MO	34

Minimum Recommended Progressive Motility is 30%

The Society for Theriogenology has published a second edition Bull Breeding Manual (2018). To place an order, visit www.therio.org or contact the office, 334.395.4666.

Society for Theriogenology Manual for Breeding Soundness Examination of Bulls

Second Edition (2018) – Jennifer H. Kozioł, DVM, MS, DACT; Chance L. Armstrong, DVM, MS, DACT -- 147 pages, full color

- Chapter 1: Factors Evaluated by Observation of Breeding Behavior
- Chapter 2: Physical Examinations
- Chapter 3: Examination of Scrotum and its Contents
- Chapter 4: Scrotal Circumference
- Chapter 5: Transrectal Examination

- Chapter 6: Examination of the Penis and Prepuce
- Chapter 7: Semen Collection
- Chapter 8: Evaluation of Semen Quality
- Chapter 9: The Breeding Soundness Evaluation Form
- Chapter 10: Venereal Diseases of the Bull
- Chapter 11: Management of Beef Bulls

Sperm Morphology

Minimum Recommended Morphology is: 70% Normal Cells

Sperm Head Abnormalities

Acrosome defect

- Knobbed
- Detached
- Folded
- Loose

Narrow (tapered) head

Crater/diadem defect

Underdeveloped

Confluent vacuole (cratered)

Single apical vacuoles (cratered)

Small abnormal heads (microcephalic)

Free abnormal heads (detached abnormal)

Pear-shaped head (Pyriform)

Abnormal contour (often happens with confluent vacuoles)

Small normal heads (microcephalic)

Giant and short broad heads

Detached, folded and loose acrosomal membranes

Sperm Midpiece Abnormalities

Proximal droplet

Distal midpiece reflex

Strongly folded (Dag)

Free normal heads (detached normal)

Double tails

Abnormal Accessory tails

Swollen midpiece

Stump tail

Principal Piece (Tail)

Terminally coiled tail

Variation of normal (Not Counted)

Distal droplet

Abaxial attachment

Simple bent tail (cold shock)

Other Cells

Epithelial cells

Red blood cells

White blood cells

Medusa formations

Sperm precursor cells

Round cells

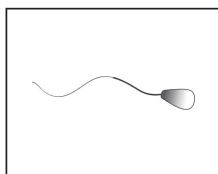
For more information on sperm morphology refer to:

Abnormal Morphology of Bovine Spermatozoa.

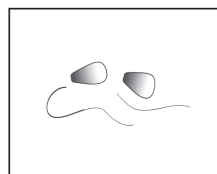
A.D. Barth and R.J. Oko. 1989. Iowa State University Press, Ames.

Bull Breeding Soundness Evaluation - Sperm Illustrations

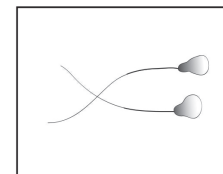
Guidelines Established by Society for Theriogenology



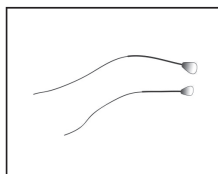
Normal



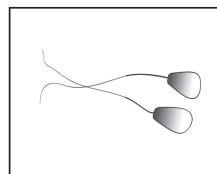
Detached Heads



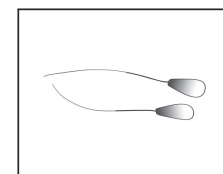
Pyriform or Pear-Shaped Heads



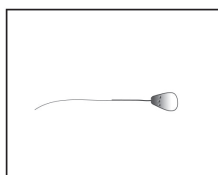
Microcephalic Heads



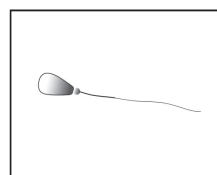
Macrocephalic Heads



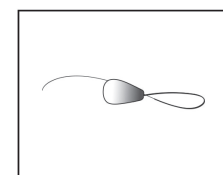
Elongated Narrow Heads



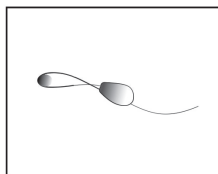
Nuclear Vacuole



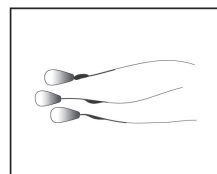
Proximal Droplet



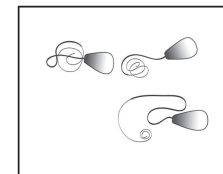
Distal Mid Piece Reflex



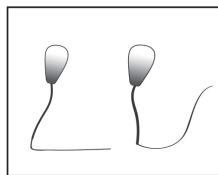
Distal Mid Piece Reflex with Droplet



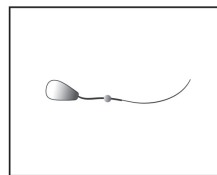
Swollen Mid Pieces



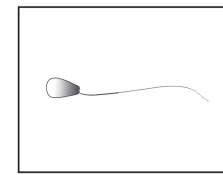
Coiled Mid Pieces and Tails



Kinked Tails



Distal Droplet



Abaxial Attachment

To be classified a Satisfactory Potential Breeder requires satisfactory Physical Examination and minimum values for Scrotal Circumference, Motility and Morphology. Any bull not meeting minimums is either classified as an Unsatisfactory Potential Breeder or classification may be Deferred at the discretion of the evaluator.

*It should be noted that it is common for yearling bulls, due to immaturity, to require a second fertility examination to achieve satisfactory potential breeder status.