



The Importance of Bull Breeding Soundness Exams

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Introduction

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University Class of 2019





What is a Breeding Soundness Exam (BSE)?

Physical Examination

Semen Evaluation

Tritrichomonas foetus
Testing



Physical Examination



Physical Examination

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Physical Examination



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Physical Examination



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Physical Examination



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Photo credit: <https://www.youtube.com/watch?v=tLaQuUpUqPM>

-century-



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Physical Examination



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<https://www.canadiancattlemen.ca/features/bvd-still-a-threat-to-canadian-cattle-herds/>



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Physical Examination

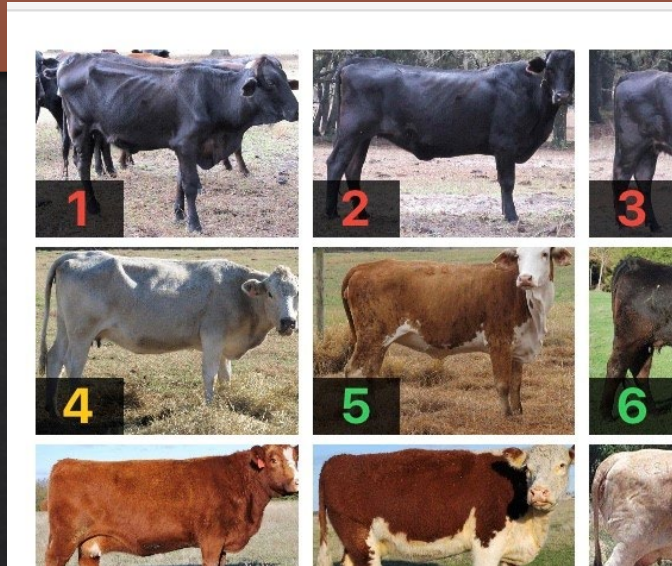


Photo credit: https://usa.chinadaily.com.cn/world/2011-06/30/content_12812610.htm



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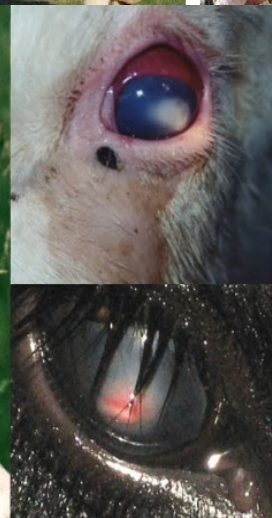


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Photo credit: <https://www.canadiancattlemen.ca/features/bvd-still-a-threat-to-canadian-cattle-herds/>



Physical Examination



Photo credit:
<https://www.uedcowevaluation.com/dairy/hea.html>



Photo credit:
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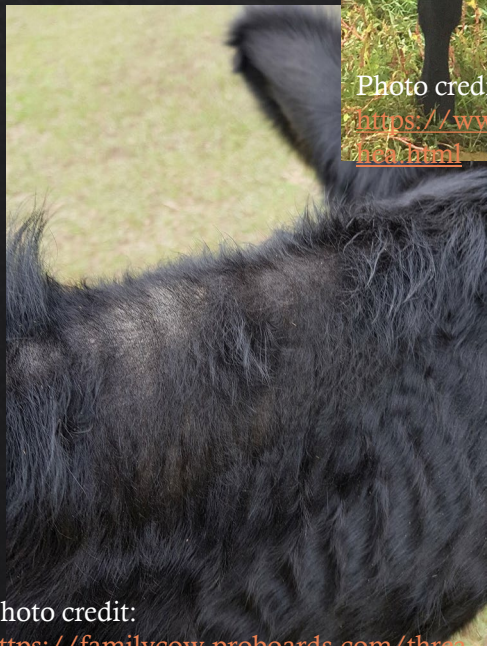


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Physical Examination



Photo credit: <https://www.uedcowevaluation.com/2017/01/11/11-11-17/>



Photo credit: <https://usa.chinadaily.com.cn/world/2010/09/09/09.htm>

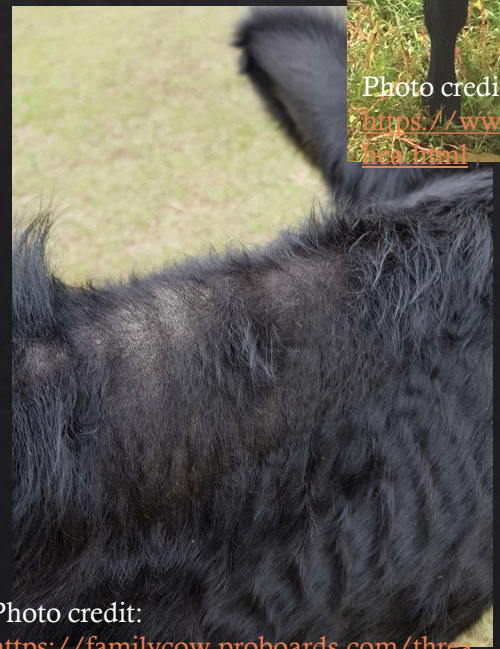


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Photo credit: <https://www.endellfarmvets.co.uk/blog/item/1/ameness-in-beef-cattle>

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Photo credit: <https://www.canadiancattlemen.ca/features/bvd-still-a-threat-to-canadian-cattle-herds/>



Physical Examination

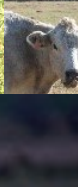
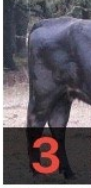


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<https://usa.chinadaily.com.cn/world/2010.htm>



Photo credit:
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Photo credit:
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Photo credit:
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Photo credit:
<https://familycow.proboards.com/thread/92064/losing-hair>

Photo credit:
<https://www.youtube.com/watch?v=tlaQuUpUqPM>




Semen Evaluation

Assess Genitalia

- Prepuce/sheath
- Scrotal circumference
- Testicle palpation

Assess Secondary Sex Glands

- Transrectal palpation of seminal vesicles, ampulla, bulbourethral gland, prostate, and inguinal rings

 Photo credits: 
https://visgar.vetmed.ufl.edu/en_bovrep/prepuce/prepuce.html

Semen Evaluation

Assess
Genitalia

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https://visgar.vetmed.ufl.edu/en_bovrep/prepuce/prepuce.html

Semen Evaluation

Assess Genitalia

Preputial laceration –healing



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Semen Evaluation

Assess Genitalia

Preputial lining injury



Preputial laceration –healing



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https://visgar.vetmed.ufl.edu/en_bovrep/prepuce/prepuce.html

Semen Evaluation

Assess Genitalia

Prepuce

on -healing

Prolapsed prepuce

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UF / drost

UF / drost

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https://visgar.vetmed.ufl.edu/en_bovrep/prepuce/prepuce.html

Semen Evaluation

Assess Genitalia

Scrotal or testicular asymmetry

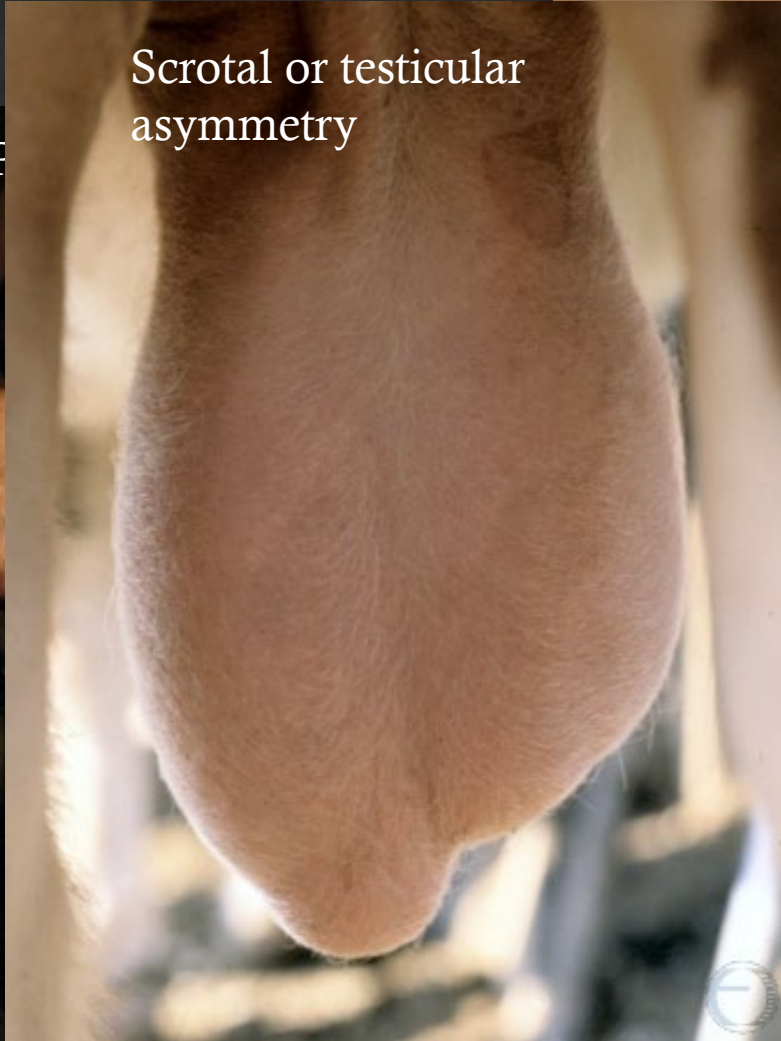


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Semen Evaluation

Assess Genitalia

Scrotal or testicular asymmetry



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Semen Evaluation

Assess
Genitalia

Semen Evaluation

Assess Genitalia



Photo credit: <https://breeds.okstate.edu/cattle/hereford-cattle.html>



Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/scrotum/scrotum.html

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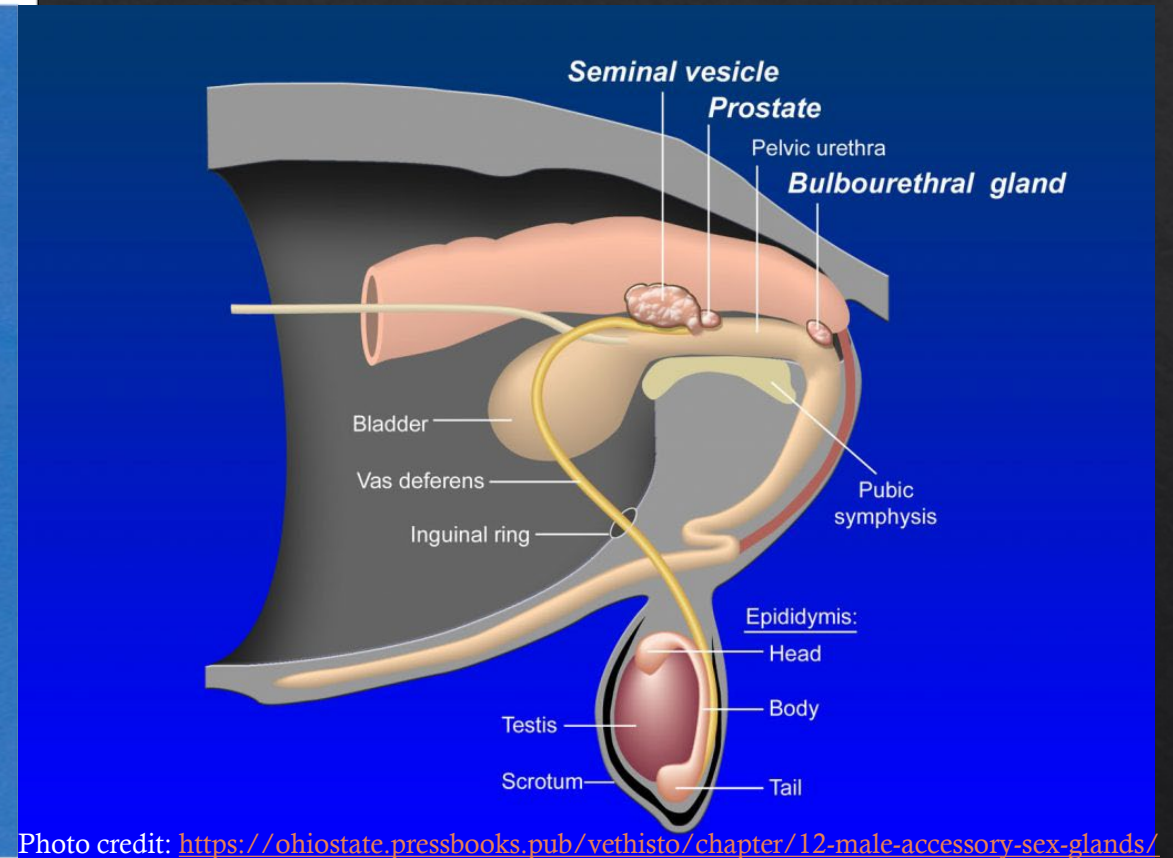
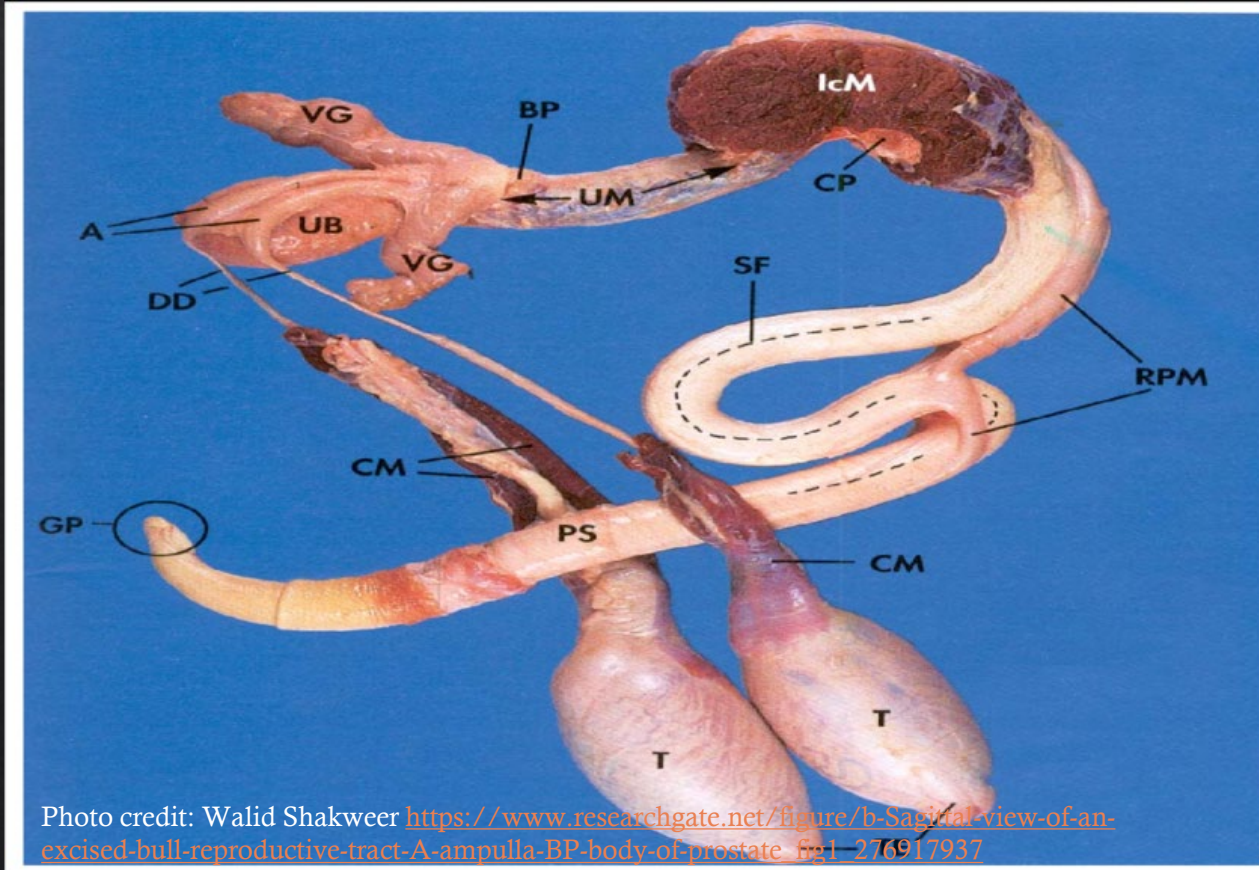


Semen Evaluation

Assess
Secondary
Sex Glands

Semen Evaluation

Assess Secondary Sex Glands



Semen Evaluation



Photo credit: <https://www.drovers.com/news/breeding-soundness-exams-mountainhills>

Semen Evaluation



Photo credit: <https://www.drovers.com/news/breeding-soundness-exams-mountain-bulls>



Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

Semen Evaluation



Separation of preputial tissue



Persistent Frenulum – prevents effective



https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

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Semen Evaluation



Separation of preputial tissue



Fibropapillomas/warts

Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html



Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

Semen Evaluation

Congenital diphallus



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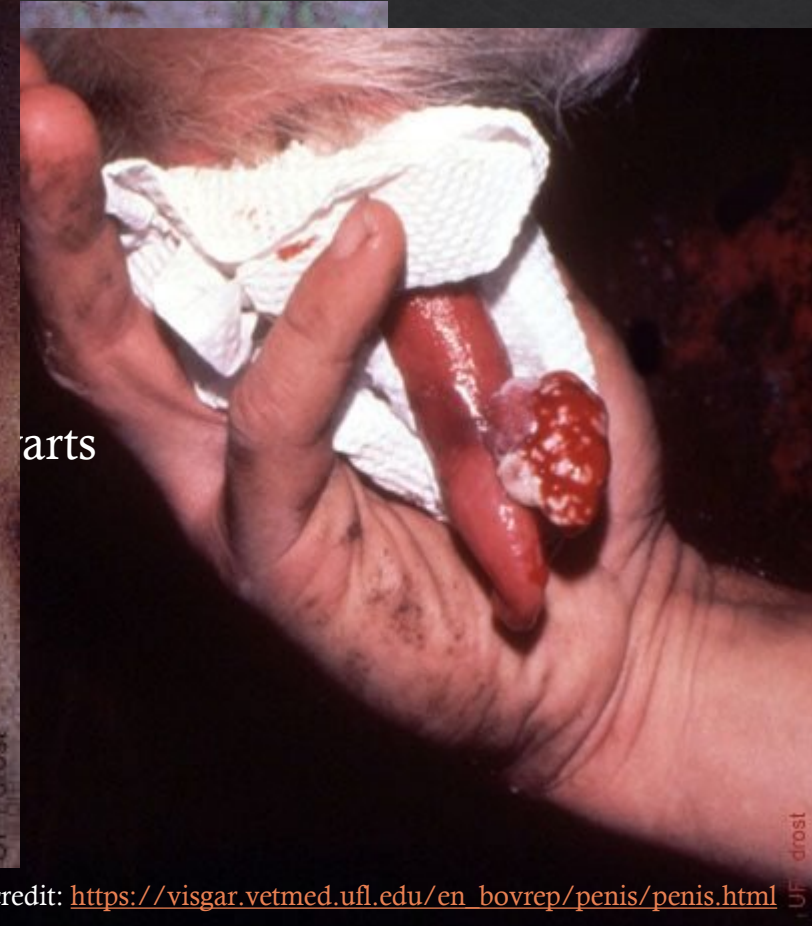


Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

Separation of
tissue



Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

Semen Evaluation

Congenital diphallus



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Hair Ring



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Separation of tissue



Photo credit: https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

https://visgar.vetmed.ufl.edu/en_bovrep/penis/penis.html

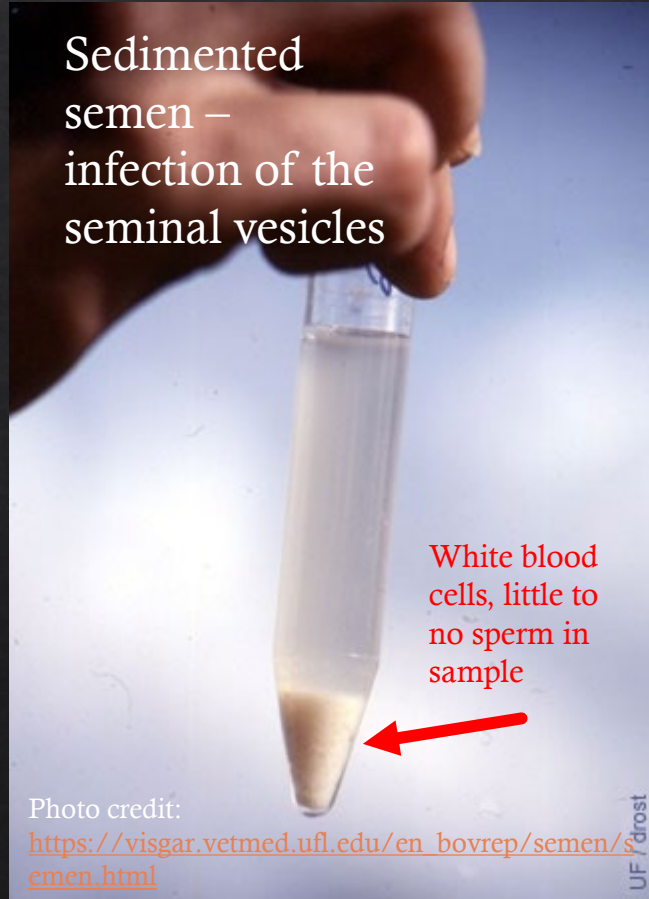
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UF



Semen Evaluation

Semen Evaluation



Motility Video:

<https://www.facebook.com/watch/?v=5546790852646>

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Semen Evaluation

Sedimented
semen –
infection of the
seminal vesicles

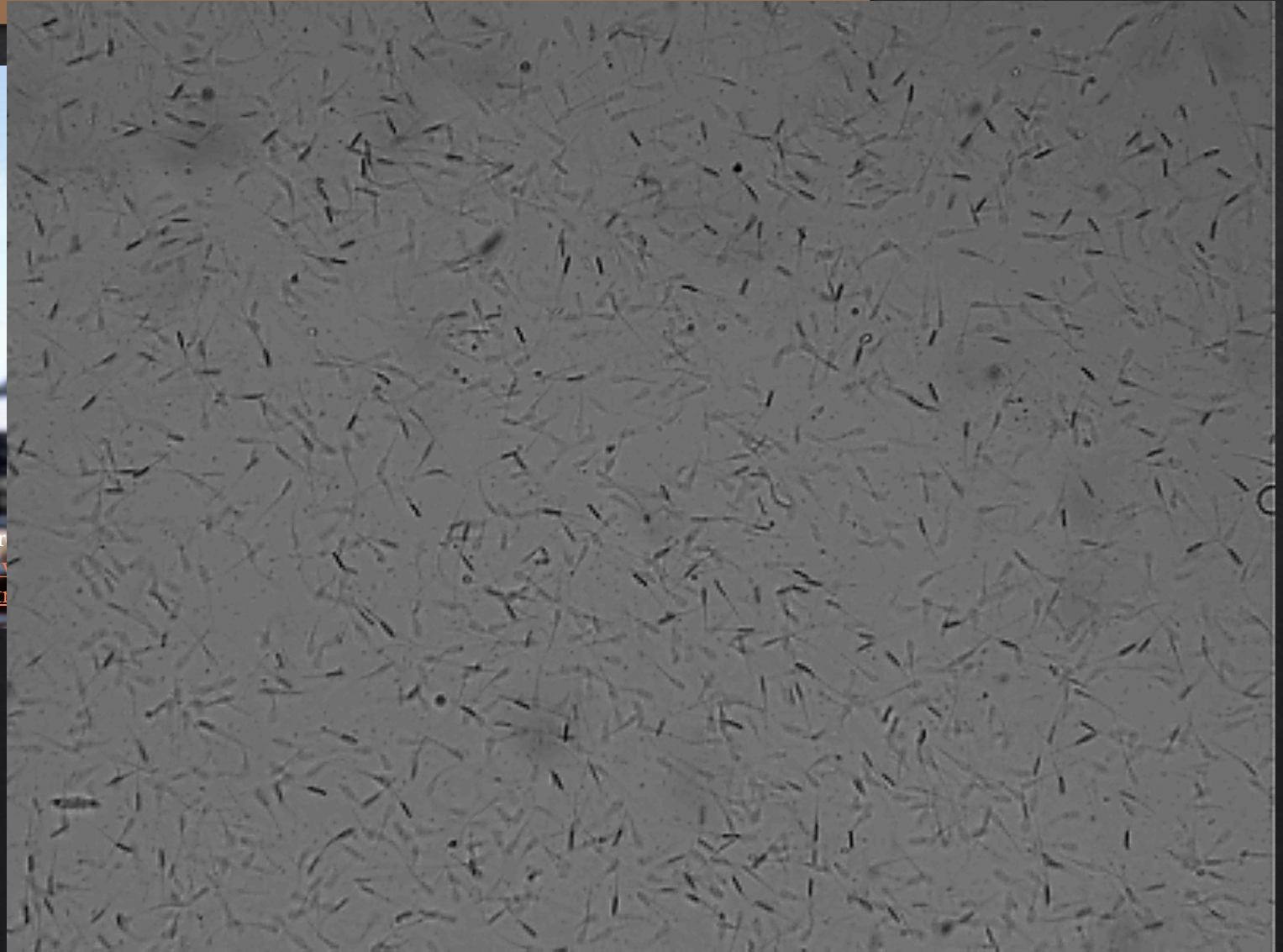
White blood
cells, little to
no sperm in
sample

Photo credit:

https://visgar.vetmed.ufl.edu/en_bovrep/semen/semen.html

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Photo credit:
https://visgar.vetmed.ufl.edu/en_bovrep/semen/semen.html

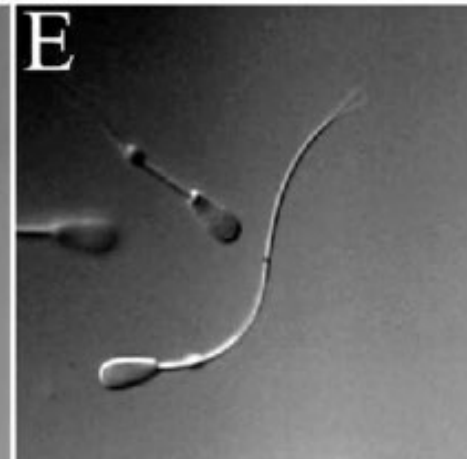
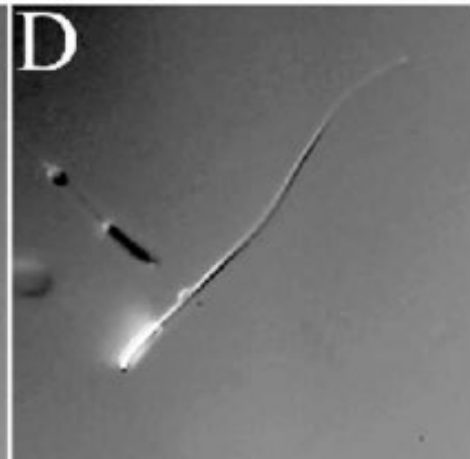
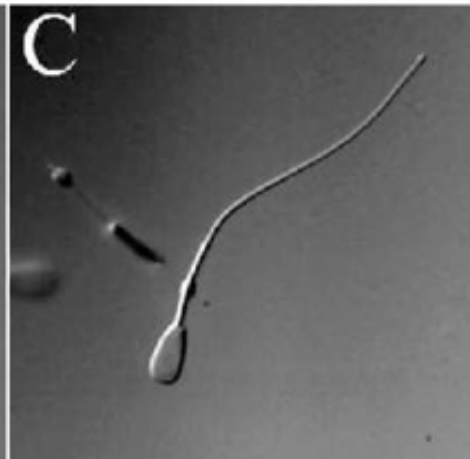
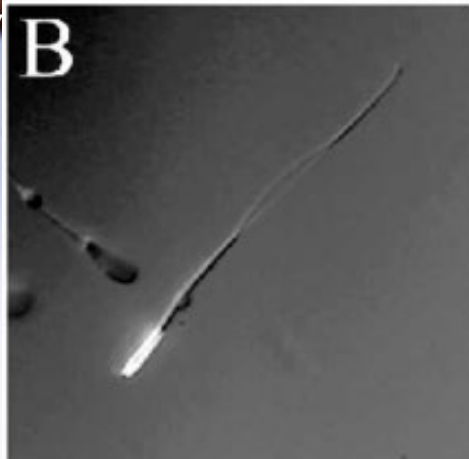
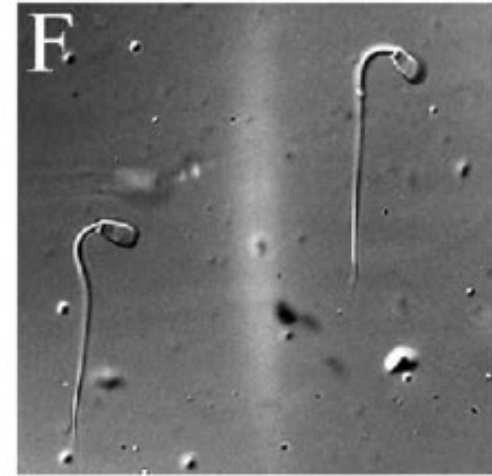
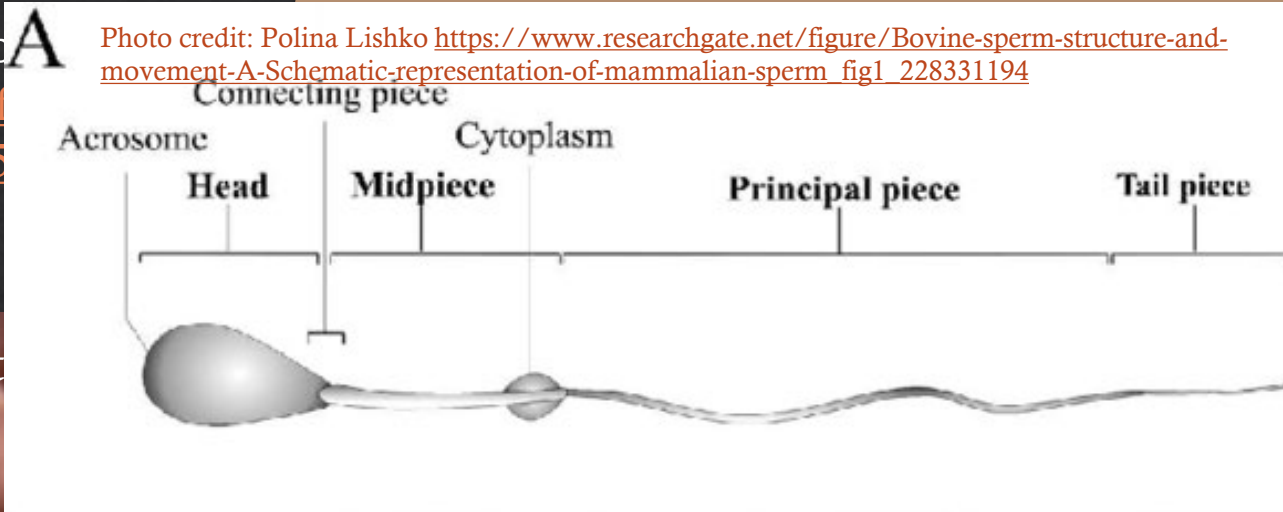


Motility Video

<https://www.youtube.com/watch?v=5535>

Sediment
semen –
infection
seminal v

Photo credit:
<https://visgar.vetruemen.html>



Bovine sperm structure and movement. A) Schematic representation of mammalian sperm morphology showing the location of the CP. B–E) Still images from Supplemental Movie S1 showing the rotation of the sperm head through one full rotation and direction of the tail movement in the sperm beating cycle. F) Image of sperm in a kinked conformation. Motion of such sperm is shown in Supplemental Movie S2. Original magnification 31200.

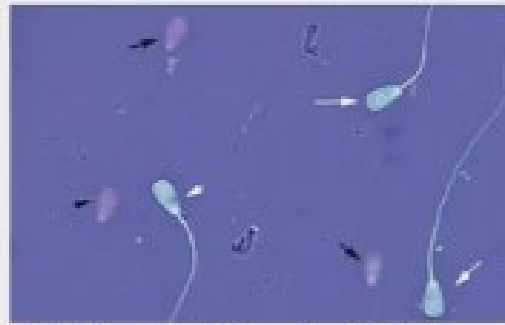
Motility Video
<https://www.youtube.com/watch?v=5...>
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Sedimentation
semen –
infection
seminal

Photo credit:
<https://visgar.veterinary.com/seminal>



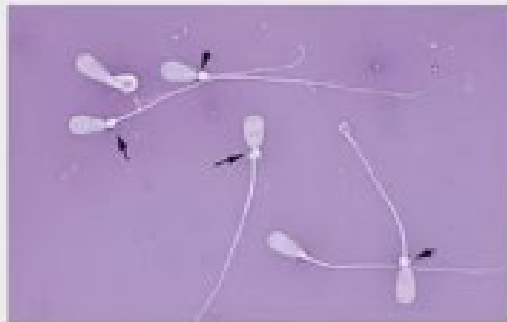
1. Coiled principal piece.



2. Detached heads (white arrows point to normal sperm).



3. Severely coiled midpiece.



4. Proximal cytoplasmic droplets.



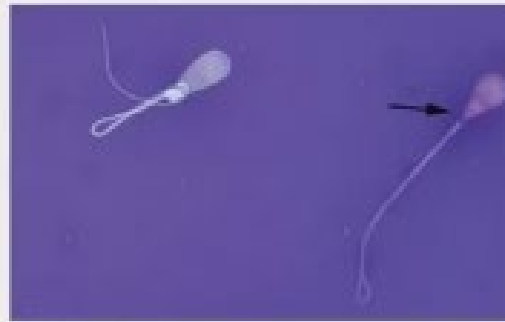
5. Distal midpiece reflexes.



6. Abnormal head.



7. Double tail.



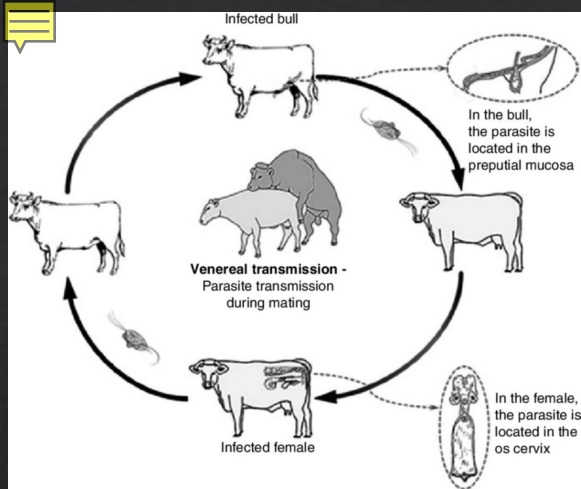
8. Pyriform head.



9. Tapered/pyriform head with abnormal midpiece.

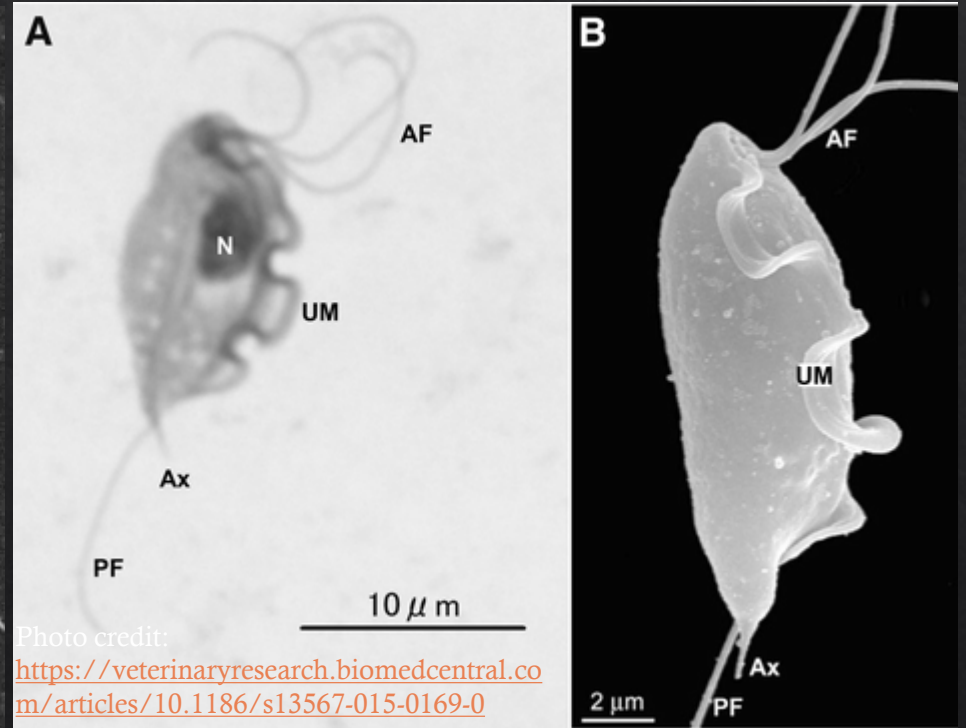
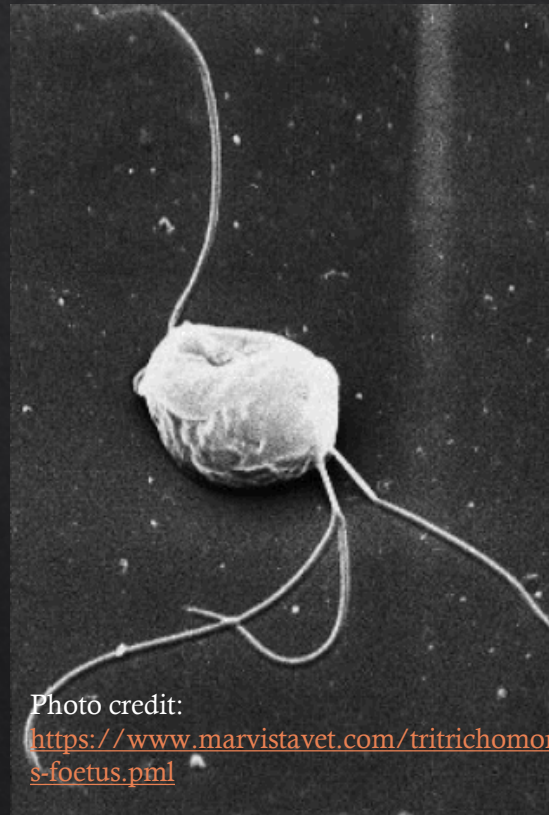
PHOTO: DR. AHMED TIBARY, COMPARATIVE THERIOGENOLOGY SERVICE, VETERINARY TEACHING HOSPITAL WSU

Photo credit: Ahmed Tibary DVM, MS, DSc, PhD, DACT
<https://www.bovinevetonline.com/news/education/50-bulls-fail-bscs-due-poor-sperm-morphology>



Tritrichomonas foetus Testing

- ❖ Protozoal parasite lives in prepuce of bulls
- ❖ Infection rate of cows 30-90% (live cover)
- ❖ Inconsistent ability to clear infection, reinfection can occur
- ❖ Causes early embryonic death
- ❖ Many open or late-bred cows, decreased number of calves
- ❖ Pyometra, endometritis, mummified fetuses



Tritrichomonas foetus Testing

- ❖ Diagnosis based on history and clinical signs, plus testing bulls
- ❖ Medical treatment not effective means of management
- ❖ Cull infected bulls, replace with virgin bulls or young negative bulls
- ❖ Vaccines not effective method of control
- ❖ Biosecurity measures are paramount
 - ❖ Keep infected or potentially infected animals separate from clean animals
 - ❖ Work with your vet for the best protocol for your herd



to credit: Merck Veterinary Manual;

<https://www.medicalexpo.com/prod/biomed-diagnostics-inc/product-106180-822285.html>



Take-Away Points

- ◆ Breeding Soundness Exams (BSEs) on bull every year, and prior to purchasing new bulls
- ◆ Pregnancy diagnosis of cows every year
- ◆ Work with your veterinarian for a Whole-Herd-Health plan every year to maximize health, efficiency, and profitability
 - ◆ vaccine recommendations tailored to your herd
 - ◆ nutrition recommendations
 - ◆ brucellosis vaccination of heifers
 - ◆ testing of your bulls
 - ◆ pregnancy diagnosis of your cows
 - ◆ and more...

References and Works Cited

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- ◊ UNL Beef Website
- ◊ Colorado State University Pathophysiology of the Reproductive System
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- ◊ Western College of Veterinary Medicine “Learn About Parasites: Tritrichomonas foetus”
<https://wcv.m.usask.ca/learnaboutparasites/parasites/tritrichomonas-foetus.php>
- ◊ Additional reading/FYI: Angus Beef Bulletin “How Much Bull Power Do You Need?”
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Questions

Thank you, Danye L. Archuleta, DVM
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