SELECTION OF BULLS, USE OF SEXED SEMEN (Level 2)

Topic	Training & information Content
6.1	Selection of bulls, use of sexed semen, feeding management of dry cows
6.2.1	The calving process
6.2.2	Use of equipment around calving
6.2.3	Care of cow and calf after calving
6.2.4	Colostrum management
6.3	Milk (replacer) feeding schedule
6.4	From birth to weaning
6.5	From weaning to pregnancy
6.6	Disease and health management
6.7	Handling of calves after difficult birth
6.8	Young stock rearing info and Key Performance Indicators
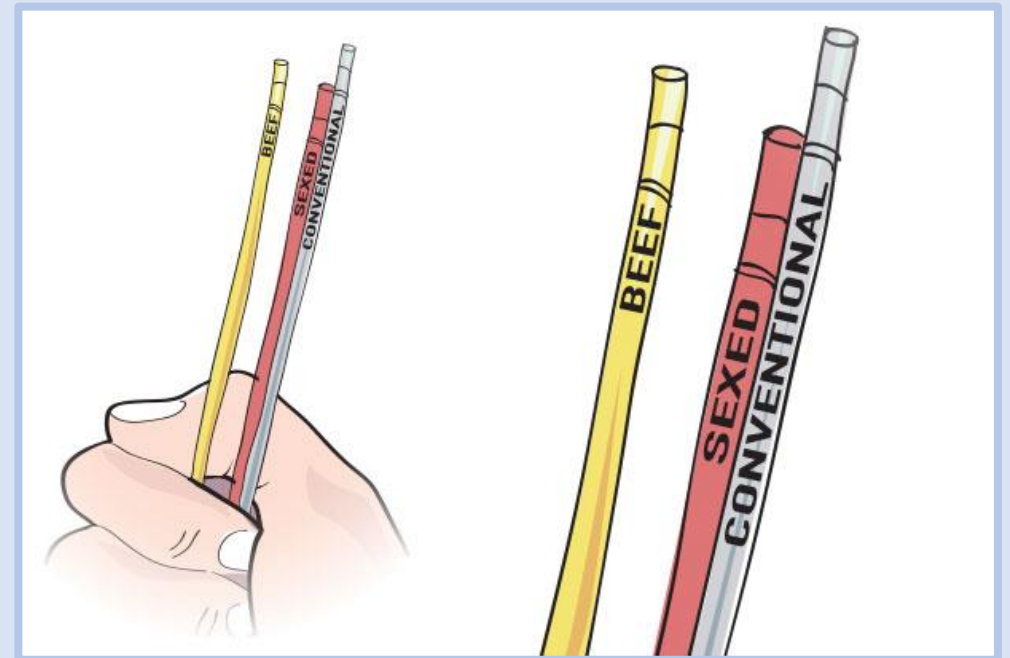
1. You will learn about (learning objectives):

❑ Sexed semen:
- Importance of bull selection in case of artificial insemination (AI).
- Variety of bulls and breeds available.
- Qualities of the different breeds.
- Use of sexed semen in virgin heifers to improve herd's genetic potential.
- How to treat/handle sexed semen.
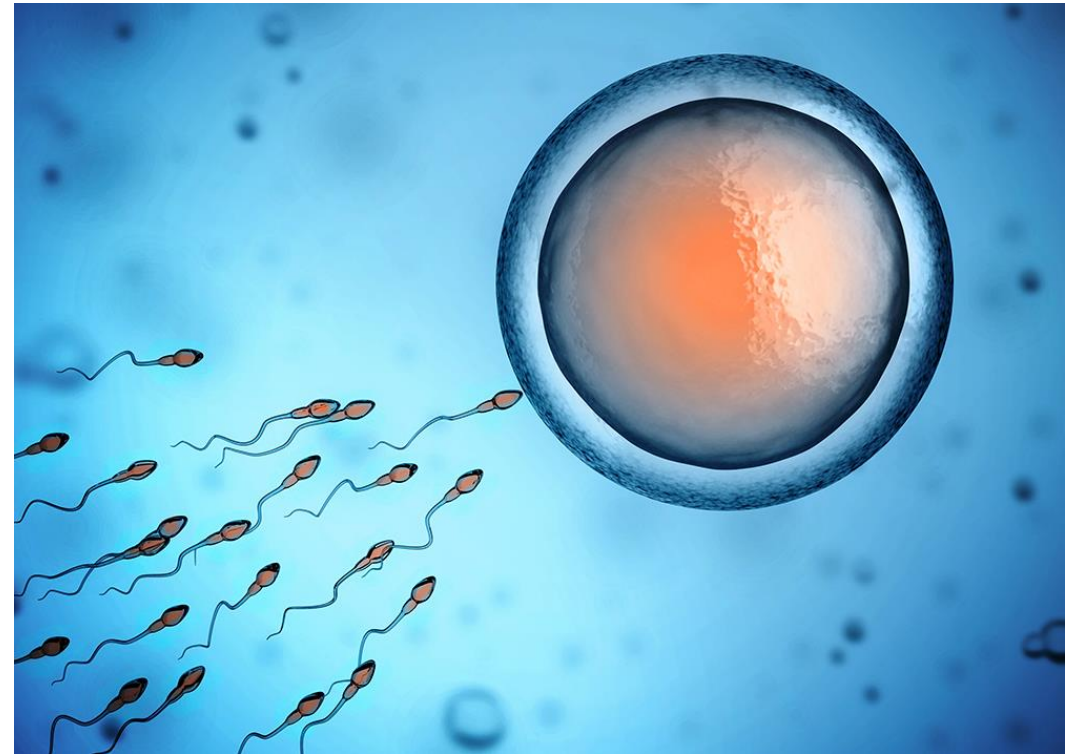
2. Background

- Herd improvement (breeding) involves first looking at your cows and setting goals.

Look at your cows.
What is your goal?

3. Setting breeding objectives

Your goal can be:
- Milk
- Calves
- Beef
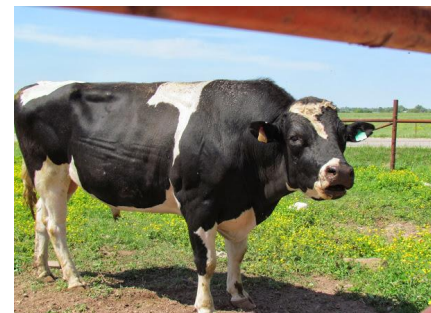

Milk

Calves

Beef

4. Selecting the breed

- Which breed suits your goal?

4.1 Selecting the breed Cont'd…

- Dairy breeds

Milk

4.2 Selecting the breed Cont'd...

- Beef breeds

Calves
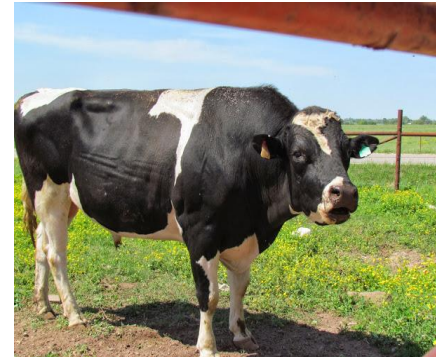

Beef

5. Cattle breed bulls: Jersey

Jersey cattle bull

Advantages	Disadvantages
High milk fat and protein	Agressive at older age.
Calves with ease	Milk fever sensitive.
High feed conversion efficiency	

6. Cattle breed bulls: Holstein Friesian

Holstein bull

Advantages	Disadvantages
High milk potential.	Heat stress sensitive.
Good udder conformation.	Fertility issues.
	Higher susceptiblity to sun burns.

7. Cattle breed bulls: Ayrshire

Ayrshire
bull

Advantages	Disadvantages
Disease resistant.	High feed requirement.
High quality drinking milk.	
Good udder conformation.	

8. Cattle breed bulls: Boran

Milk production from Boran/Friesian F1.

1st lactation;
Av 9,3 kgs/day
High 13,8 kgs/day.

2nd lactation;
Av 10,4 kgs/day
High 15,6 kgs/day

3th lactation;
Av 13,4 kgs/day.
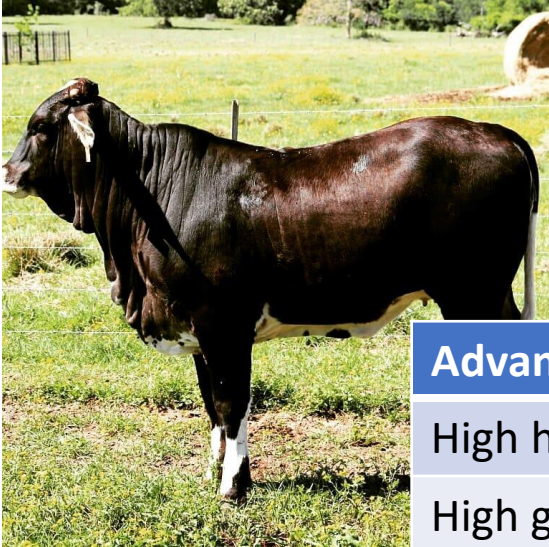High 19,5 kgs/day

Source: www.borankenya.org

Boran bull

Boran*Friesian

9. Cattle breed bulls: Brahman

Brahman bull

F1

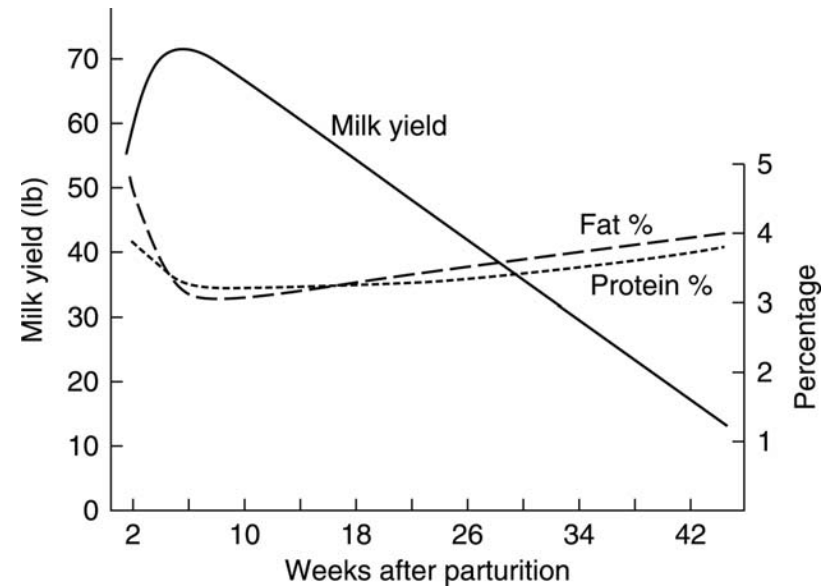Brahman/Holstein.

Advantages	Disadvantages
High heat tolerance.	Low milk potential.
High growth rate.	
Tameness & easy calving.	

10. Breeding goal influences the choice of breed

Which features do you want to improve for the future? That's your breeding goal.

- Milk yield
- Total solids
- Longevity
- Udder
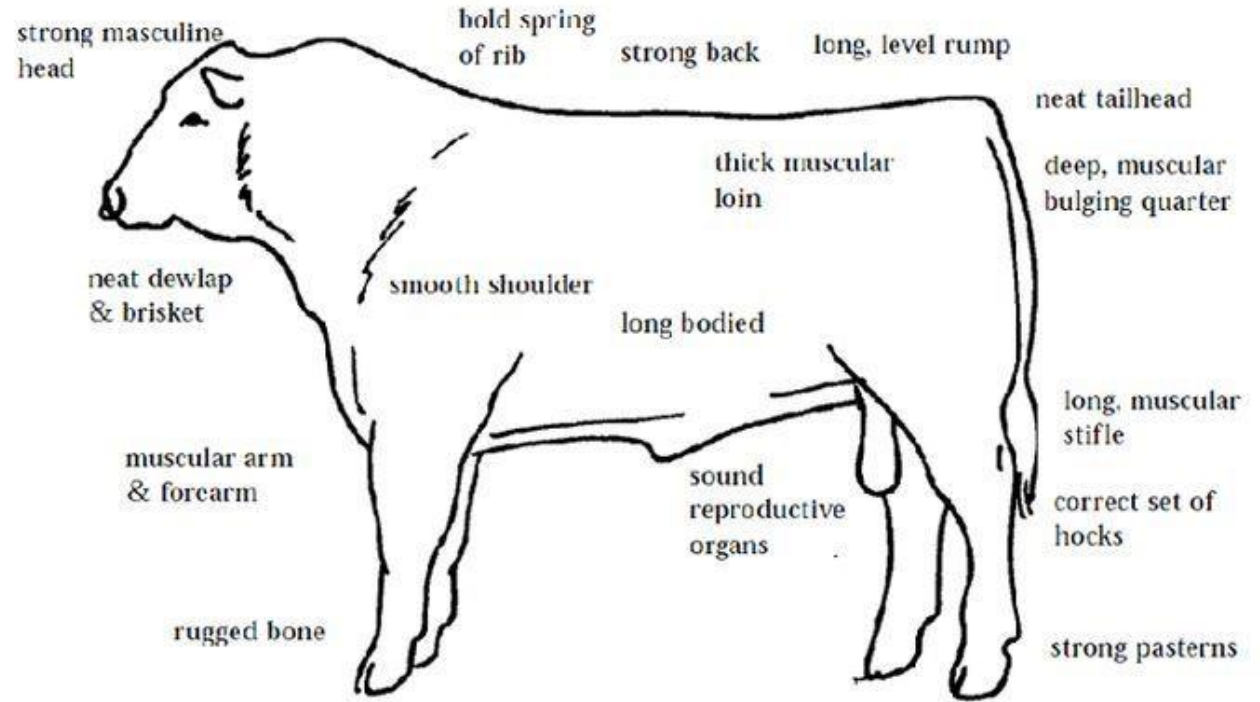- Speed of milking
- Good feet and legs
- Etc.

11. Choosing the right bull

Consider:

i. Appearance
ii. Information from daughters.

Note: The most reliable bull selection is a selection based on breeding values.

Ideal Bull

- strong masculine head
- hold spring of rib
- strong back
- long, level rump
- neat tailhead
- thick muscular loin
- deep, muscular bulging quarter
- neat dewlap & brisket
- smooth shoulder
- long bodied
- long, muscular stifle
- muscular arm & forearm
- sound reproductive organs
- correct set of hocks
- rugged bone
- strong pasterns

12. Breeding techniques

Natural insemination

Artificial insemination (AI)

13. Sexed semen

- Involves separating male and female semen cells.

Advantages of using sexed semen

i. Certainty of heifer calves for replacement or growth
The number of desired heifer calves can be optimally controlled with sexed semen.

ii. Less difficult births
The birth of heifer calves is on average much easier than the birth of bull calves.

iii. Higher turnover and growth
By inseminating some of the animals with sexed semen, space is created too: to inseminate a larger proportion of the herd with semen from bulls with meat traits to raise more heifer calves for sale of breeding material.

iv. Faster genetic progress
When using sexed semen on the genetically best animals in the herd, genetic progress in the next generation of dairy cows is faster.
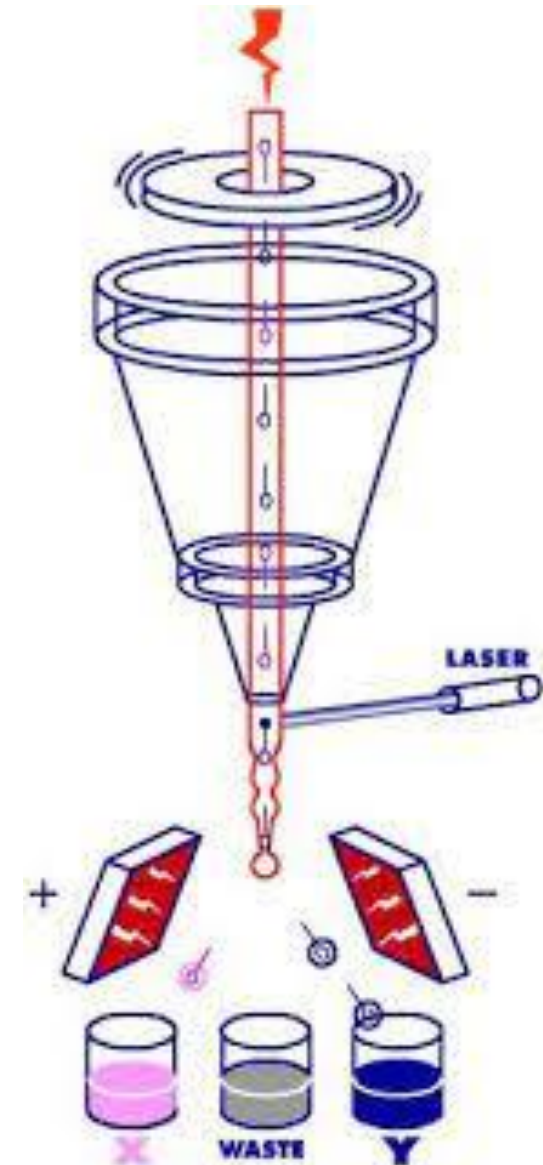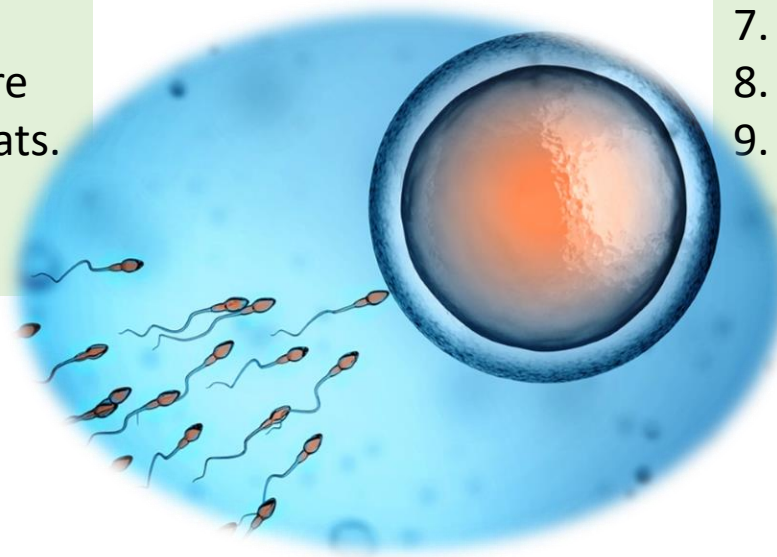
Success formula for using sexed semen

1. Virgin heifers.
2. Healthy animals.
3. Desirable Body Condition Score
4. At least two administrated heats.
5. Very good heat detection

6. Max 50% conception rate
7. > 90% heifer calves.
8. Precise Insemination moment.
9. Semen management.
   - Thawing temperature.
   - Act quickly.

Sexed semen increases the genetic
potential of your herd!

14. Advantages and disadvantages of the breeding techniques

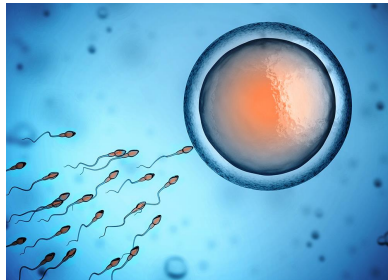Natural insemination = Cheap = No/Low genetic progress Whole herd

Artificial insemination = Costly = Genetic progress = Good cows

Artificial insemination with sexed semen. = Expensive = Very fast genetic progress = The very best for virgin heifers.

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