

# A Review of Reproductive Indices of the Dairy Herd at University Vet Farm (Kanyariri)

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# Introduction



- The two major problems in the country.  
Poverty and food insecurity
- Agriculture contributes abt 24.2% of GDP  
(CIA world factbook, 2013)
- Livestock subsector contributes 7 per cent of GDP  
(GoK, 2010)
- Estimated number of :  
cattle- 17,467,774; **dairy milk cows - 3,355,407**  
(Population & Housing census results, 2010)

# cont



- The dairy industry is the largest agricultural sub-sector in Kenya, (Muriuki *et al*, 2004).
- It contributes:
  - 17 % of agricultural GDP and
  - 3.5 % of total GDP (GOK, 2008)

## Introduction



Reproductive efficiency = ability to get cows bred back rapidly after calving with a minimum number of breedings per cow.

**Inefficient reproduction** - reduces both the efficiency of milk production & the number of available replacement heifers - decreases profit (Varner et al, 1914)

# Objective

to;

Review the reproductive performances of the vet farm dairy herd



# Materials & Methods



- Reproductive performance records were reviewed at the Veterinary farm, Kanyariri.
- A total of 24 records purposively reviewed.
- Data on herd size, age at first service, gestation, calf to estrus, calf to conception, age at 1<sup>st</sup> calving, intercalving interval, calves per year, inseminations collected, entered and analyzed in Microsoft excel(Microsoft corp., 2007)

# Results

Herd size approximately 210

Average age approx. 7 years

Milking herd - 80

Replacement heifers, culls - 130



# Indices

Index	n	min	max	Mean	Std
Age 1 <sup>st</sup> service (Months)	24	20	41	29	36.5
Gestation (days)	24	275	337	283	282
Calf to estrus (Days)	22	44	303	155	-
Calf to conception (days)	22	44	558	193	80-85



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Index	n	min	max	Mean	Std
Age at 1 <sup>st</sup> calving (Month)	23	29	52	40	31
1 <sup>st</sup> calving interval (Hare et al, 2006)	19	11	22	15.9	12.9
Inter calving interval (Months)	18	12	30	18.1	12
Calves per year	24	0	1	0.63	1

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Conceptions	1997 - 2006	2007 - 2012	Total
Successes	31	63	94
repeats	10	86	96
% success	75.6	42.3	49.5

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No. of services per conception = 1.44

Overall conception rate =  $100/190 = 52.6\%$

# Discussion

Fertility in cattle is affected by

- environmental,
- genetic,
- disease and
- management factors.

These influence the reproductive process at ovulation, fertilization or implantation or during gestation and parturition.

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- **Inter Calving interval (CI)** is an important index of cow reproductive performance and an ICI of 365 days is desirable for efficient production (Esslemont , 1993).
- ICI of
  - 646 days reported (Odima et al,. 1994)
  - 480 days by MoLD, 1989
- The reproductive indices reviewed were not within expected values .

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- Probable reasons;
  - Inadequate nutrition
  - failure to manifest estrus/ anoestrus
  - failure to detect estrus
  - Repeat inseminations/ breeders/ inseminator effect

# Recommendations

- **Herd size; -**

- overstocked - **reduce to carrying capacity**
- **remove culls.**

- **Records**

Urgent need to correctly capture & enter details for individual animal and herd.

*1 cow calved without insemination*

*1 cow was in calf for 337 days*

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- Consider new cow card design to include e.g. birth weight (calf) and periodic weight gains (dam & calf); BCS at insemination
- Cull non productive animals

**650 litres/ 80 milkers**

*1 cow repeatedly inseminated 7 times – not pg 18 months later!*

- Establish causes of prolonged inter-calving interval



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Thank you

