

**Report on:
CHARACTERIZATION OF SOME REPRODUCTIVE TRAITS
OF DAIRY COWS**

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ABSTRACT

The research is conducted to, investigate the difference between cross bred dairy cows (Kenana x Friesian) with local breed (kenana) in some reproductive traits.

The research also seek for the best cross that can be kept in the research area.

200 dairy cows including local breed (kenana.) 50%,62.5% and 75% cross bred dairy cows were studied in five successive years (1997-200 1) The average birth weight was 21.5, 25.4,25,9 and 25,6 kgs for local, breed 50%, 62.5% and 75% respectively. Furthermore number of services per conception was 1.38, 1.36, 1.36, and 1.47, for the local 50% 62.5% and 25% respectively On the other hand the average of first calving age weight was 262.6, 358.9, 376.2 for local 50%, 62 and 75% respectively . the average gestation period per cow was 281.1 282.4 and 282.9 days for local 50 62.5 and 74% respectively. The statistical analysis showed that 62.5% crossbred cows had better performance than the others.

The research concluded that extension should encourage the farmers to adopt 62.5% hybrid to carry out further studies on milk production for the different breeds.

Keywords: Dairy cows, reproductive

INTRODUCTION

Tropical dairy cows suffer from many factors the low quality forage, hot stress, disease and low production. Genetic improvement is one of the main tools that can increase the production In addition to environmental improvement. cross breeding is one of the effective means that can upgrade the production of kenana and Butana cows which are the best milk producing cows in the sudan.

Researchs were carried out to raise the yield of local breed Saeed *et al.* (1988).

50% cross herd cows were the best in the environment of Sudan and to sub extence 62.5% Dairy farm was attached to kenana Sugar company in 1981 and fewer kenana cows had been adapted there . professionals in kenana scheme began to improve their herd by crossing local breeds with pure Fresian.

The study is seeking for the best rate that may show better r productive performance in the (SSR) Analysis.

MATERIALS AND METHODS

The research area

The research is going carried out in kenana Sugar company dairy farm.

The research Objectives:

To Investigate the best blood rate of cross bred cows that reveals better reproductive performance in the area.

The research steps:

Data were collected from the dairy records to determine the reproductive performance of local, 50%, 62.5% and 75% cows of kenana Sugar scheme dairy Farm which are:

- *The calving intervals.
- * The age at first calving.
- * The Number of Services / conception.
- * The weight at first calving.

Statistical Analysis:

Graphs, tables and figures used for the result. The differences were tested using Duncan (1955).

RESULTS

Table 1: Average of some reproductive performance.

Breed	Birth weight (Kg)	Age at first calving (day)	No of Service conception	Gestation period (day)	Calving interval (day)	Weight at first calving (Kg)	No. of seasons (Parity)
Local	21.15	1742.8	1.38	281.06	403	302.57	5
50%	25.40	1346.0	1.36	281.37	383.00	358.87	5
62.5%	25.90	1156.8	1.30	282.10	369.57	365.47	5
75%	25.60	1462.6	1.40	282.93	401.16	376.18	5

The average of some reproductive traits indicates that 62.5% crossbred cows were the heavier at birth followed by 75, 50% and local breed.

That means the weight at first calving of cross bred cows is heavier than local breed (Table 1). The age at first calving was 1186.8, 1340.7, 1462 and 1742.8 day for 62.5%, 50% 75% and local breed respectively. The result also shows that 62.5% have the short calving age followed by 50% 75% and local breed (kenana) and it is different from what observed by Osman and Russell (1970), it may be due improved condition Numbers.

Numbers of services per conception were 1.36, 1.3, 1.4, 1.38 times for 50%, 62%, 75% and local breed (kenana). respectively.

The result indicates that 62.5% is the best hybrid although all the breeds have good fertility rate. That this matches with what was stated by Khan (1981).

The Results also shows that gestation period for 50%, 62.2% 75% and local breed was almost the same and this means there were no significant difference between the breeds incase of gestation period.

Calving interval of different breeds was 383, 369.57, 401.16 and 403 for 50%, 62.5%, 75% and local breed respectively.

It seems that there is no significant difference between 75% and 62.5% cow which shows shortest calving interval and slightly different from what observed by Saeed *et al.* (1988). On the other hand the weight at the first calving was 358.87, 365.475

376.18 and 26757 kgs for 50%, 62.5%, 75% and kenana respectively and this indicates that the higher temperate blood rated hybrid have the heavier weight in the research area.

It could be that 62.2% hybrid (Fresian X Kenana) shows better reproductive performance so it recommended that effort should be done focus on 62.5% cross bred cows rather than other crosses.

In the research area or similar environment minimize the first production time and cost as follows;

1. Breeding of all local cows with pure Fresian sire to give 50 % off springs.
2. Breeding of 50% cows with 100% sire (Fresian) to give 75% off springs.
3. Breeding of 75% with 50% sires or the contrast to give 62.5% off spring.
4. 62.5% cows should be bred with 62.5% sires.
5. Line breeding should be practiced to avoid inbreeding defects.

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بعض الخصائص التناسلية لأبقار اللبن
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يهدف هذا البحث لدراسة بعض الخصائص التناسلية لقطيع حليب بسكر كنانة والبيئات المشابهة لها عبر مقارنة السلالات المهجنة مع الفريزيان التي تتم تربيتها بمزرعة ألبان سكر كنانة والمفاضلة بينها وبين (كنانة نقية و ٥٠%، ٦٢,٥%، و ٧٥% هجين).
تم دراسة ٢٠٠ بقرة من كل نوع لمدة خمسة مواسم متتابعة استخدمت المتوسطات لتعبر عن الخصائص التناسلية لكل سلالة.
باستخدام التحليل الإحصائي أتضح أن (٦٢,٥%) الأبقار خليط كنانة مع الفريزيان هي أفضل السلالات إلى يمكن تربيتها اقتصاديا بالمنطقة.
أوصى البحث باتباع برنامج تربية تنتج عنها سيادة الهجين ٦٢,٥% بالمزرعة مع نقادي عيوب التزاوج الداخلي عن طريق (Line breeding) كما أوصى الباحث بإجراء تجارب أخرى عن الخصائص الإنتاجية (الحليب واللحوم) لهذه السلالات.