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Fertility Management Of Dairy Cattle Farms On The Farm CNIAG (El Tarf)

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Abstract
This study was carried out in the pilot farm "Ben Hamada" in the municipality of Besbes, wilaya of El Tarf. An analysis of the fertility results of the campaign (2021-22) was carried out to assess the conduct of dairy cow reproduction. The data collected was processed by the Microsoft Office Excel program for the calculation of means and standard deviation.
A deterioration in the fertility of the herd was noted with a time to reproduction (V- IA1) greater than 186 days and a V-IAF interval of around 329 days, which lengthens the interval between calvings and does not allow to achieve the goal of one calf per cow per year. On the other hand, an improvement in fertility results was recorded throughout the campaign with a percentage of cows at 3IA and above not exceeding 2%.
The reproductive performances recorded remain below accepted standards and lead to considerable economic losses for this farm.

Keywords: wilaya of El Tarf, Ben Hamada farm, dairy cow, reproductive management, fertility.

Introduction

According to (Hanzen, 2016) many problems are holding back the development of dairy cattle farming. Apart from the food component, which is a major handicap where farmers are unable to produce their own fodder to ensure a certain food autonomy and availability of green fodder all year round, there is also the poor zootechnical performance of our dairy cows. Several Algerian authors have reported poor fertility results and poor management of herd reproduction.
This is the context of our study, which was carried out on a pilot farm in the commune of Besbes, wilaya d'El Tarf, with the aim of assessing the fertility of dairy cows during the 2021-2022 marketing year, and to situate the results obtained in relation to the accepted standards.

Objectives and working methodology:

This work was carried out in the form of a non-directed experiment on a dairy cattle farm in CNIAG (wilaya of El Tarf), and its main objectives are:
*The search for information to evaluate the reproductive behavior of dairy cows.
*Analyze the evolution of the breeding performance of the dairy herd over a marketing year and situate it in relation to accepted standards.

The reasons for choosing this farm were:
-Availability and accessibility of information on breeding, feeding and milk production of cows.
-The size of its workforce.
-The size of the holding and the area devoted to fodder.
-The farm is located in an agricultural area of the wilaya of El Tarf.
-The presence of qualified personnel.

RESULTS AND DISCUSSION

Fertility parameters:

The calving interval - 1st projection:

Observation of this parameter showed an average of 185.5 ± 92 was noted with 80.43% of the cows inseminated beyond 90 days, it was found that there is an interval of the first protrusion is -40 days which confirms that the cow has three cycles:
Phase 1: 21 d rest phase.
Phase 2: Invisible (unnoticed) heat detection or is observed only one cow (47d).
phase 3: insemination is normally done from 60 days (5 cows), (range of (40-70 days), i.e. 10.87% of the cows.
The interval (70-90d): 4 cows or +8.7% and for the interval of (+90d)the majority of cows are inseminated or +80.43%. This is also due to Control problems, Unnoticed insemination, Lack of food (quantity, quality and price problems).
These values are not in accordance with the generally accepted standards (Bouzebda Z et al, 2006), since the first insemination after farrowing cannot exceed 65-70 days (Etherington et al. 1991), with the exception of high-potential cows where one can afford an extra month.

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Table 1: Distribution of the calving interval first projection (CNIAG 2021-2022)

Mean and standard deviation	**185,5 ± 92**	
Distribution	**number of cows**	**percent %**
-40 d	00	00
40- 70 d	05	10,87
70- 90 d	04	8,7
+90 d	37	80,43
Total	46	100

The calving - fertilizing insemination interval (V-IAF):
The average interval between calving and fertilizing insemination is 328.69 days with a standard deviation of 220 days. From the results obtained, it can be seen that the cows fertilizing between 40 and 80 d represent either a 4% rate and for those of the cows fertilizing +80 d is 44 cows or +95.66% and it is observed that these cows are superior (95.66%), which is very far from our objectives

Table 2: Distribution of the calving interval fertilizing insemination (V-IAF) (CNIAG 2021-2022)

Mean of standard deviation(d)	**328,69 ± 220**	
Distribution	**number of cows**	**percent %**
-40 d	00	00
40- 80 d	02	4,34
80- 110 d	01	2,2
+110 d	43	93,46
Total	46	100

It can be seen that the fertilization interval is far from the accepted thres holds (BOUZEBDA Z, et al 2006), in fact, averages of 174 days, 156 days and 151 days are recorded respectively; it is generally accepted (Seegers.H, Grimard.B and Leroy.I) (1996) that all cows must be declared pregnant between 85 and 90 days after farrowing. This factor depends on the first-protruding calving interval and on the number of inseminations to obtain fertilization, also confirms the results of (Bouamra et al, 2016)our results explained by:
The Lack of Reporting Deposit Heat Observation (Exceeds 12-18h Heat Detection Time), Metrite Problem, Semen Freezing and Cow Weights.

The calving-calving interval (V-V):
The calculation and distribution of the interval (V-V) of the herd of the Ben Hamada holding during the year (2021-2022) is the result of 601j which shows that the average is very far and very high compared to the standards (365j), however a rate of 22% of the cows have an interval (V-V) in the standards; it can be seen that these results are also far from that found by (MOUFFOK C. , MADANI T. and , YEKHLEF H.) for flocks reared in defient bioclimatic regions (USA or upper semi-arid388±74 and SAL or semi-arid lower than 418±91).and also compared with the results of BENALLOU and Bouabdellah 2007) was 415.25 approximately 82.67 days and varied according to the companions 392 approximately 58 days to 422 approximately 95 days (Belhadia and H Yakhlef) with an interval of 351 days. And concerning the one found by (Alkoiret 1 A.B. Gbangboche) is 426 ± 85 days (14 ± 2.8 months) which explains. The calving year, calving season and lactation rank significantly influenced the calving interval,

Table 3: Distribution of the Calving-Calving Interval (V-V):(CNIAG 2021-2022)

Means(d)	**601d**	
distribution	**number of cows**	**percent %**
-350d	02	4,35
350- 450 d	08	17,39
450- 550 d	13	28,26
550- 600 d	02	4,35
+600d	21	45,65
Total	46	100

The percentage of cows with 3 or more insemination (%VL at 3IA and above):
We have 58.7% of the fertilizing cows whose insemination is successful. the target set by all the authors is 60%. Although the rates obtained in the studies reported above are not much better (GHOZLANE, et al, 2010), this result reflects poor reproductive management and the absence of a well-defined policy on breeding of the herd.

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Infertility is considered to occur in a herd when more than 15% of cows require more than 3 insemination sessions. This is the case for 40.30% of the cows in our herd and the one in (GHOZLANE, 2010) 54.10% This situation has the most disastrous economic consequences on the farm's cash flow, since the price of seed straw is very high, even if insemination is subsidized in full by the public authorities and the number of open days is also expensive because the cow continues to eat when it is not in pregnancy (.M K Ghozlane, et al, 2010)

Table 4: Fertility parameters (CNIAG 2021-2022):

Number of protrusions per pregnancy	**2,347%**	
Number of projection	**number of cows**	**percent %**
01 protrusion	16	34,8
02 protrusion	11	23,9
03 or more protrusions	19	41,30
Total	46	100

Conclusion

From this study and in the light of the results obtained following the analysis of the reproduction parameters of the dairy bovine herd during the 2021-2022 marketing year, we can conclude that the Poor reproductive management is at the root of poor reproductive performance in dairy cows (Bouzebda ,Z et al, 2006). It is evidenced by a bad policy of reform, breeding, pregnancy control and heat detection (Dohoo, 1985) (Abassi.S, 1999).

Many factors are the main causes of the failure of cattle breeding in the region as confirmed by (Hanzen, 2016):

Breeding management
Lack of fertilization
Antisperm immunization
Inadequate detection of heat The cause can be found in poor identification of signs of heat. It is also possible that the increase in progesterone at the time of heat results in a reduction in behavioral signs (Schopper and Claus Zuchthygiene, 1986),
Oviduct pathologies
Choice of time for insemination:
Anatomical location of insemination:
Female genital pathologies
Lack of ovulation
Chromosomal abnormalities
Asynchronous ovulation
Embryonic mortality
Parental factors.

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