

قسم : الولادة - كلية الطب البيطرى - جامعة أسيوط .  
رئيس القسم : أ. د / أحمد ممدوح عثمان .

استبيان لبعض مشاكل نقص الخصويه فى الأبقار والجاموس  
فى صعيد مصر

باهى سرور ، أحمد فراج ، أحمد جمعه

- ١- أجرى هذا البحث فى محافظات أسيوط ، المنيا ، وسوهاج وقد تم فحص عدد ١٨٥٧ حالة عقر فى الأبقار والجاموس . وكان عدد الأبقار هو ٦٠٥ ( ٥٠ عجله و ٥٥٥ بقرة ) بينما كان عدد الجاموس هو ١٢٥٢ ( ١٦٠ عجله جاموسى و ١٠٩٤ جاموسه ) .
- ٢- كانت نسبة حد وث عدم ظهور الشياخ فى الجاموس وعجلات الجاموس ( ٧٣٣٩ ) ، ( ٨٨٧٥ % ) أعلى من نسبة حد وثها فى الأبقار ( ٤٩٩٩ % و ٥٤ % ) .
- ٣- وجد أن الاصابه بضمول المايض فى الجاموس والابقار هى من أهم أسباب عدم الشياخ . وقد كانت نسبة حد وث عدم الشياخ ( فى المحافظات الثلاث ) أكثر فى الجاموس ( ٨١٠٤ % ) منها فى الأبقار ( ٧٤٧٣ % ) .
- ٤- كانت نسبة حد وث الجسم الاصفر المستديم فى عجلات الجاموس نادرة ، الا انها كانت فى الأبقار أعلى منها فى الجاموس .
- ٥- وجد أن نسبة حد وث الشياخ الصامت أعلى قليلا فى الجاموس عنها فى الأبقار . وقد كانت نسبة حد وث الشياخ الصامت عامة أعلى فى العجلات عنه فى الحيوانات الكبيرة .
- ٦- كانت نسبة حد وث الشياخ المتكرر فى الجاموس أعلى منها فى عجلات الجاموس ، كما أن نسبة حد وث الشياخ المتكرر بدون أعراض مرضية فى الجهاز التناسلى كانت أكثر قليلا فى الأبقار عنها فى العجلات . وقد كانت نسبة حد وث الشياخ المتكرر المصاحب بالتهاب الرحم عالية فى الجاموس والابقار فى المحافظات الثلاثة عنه فى العجلات .

INCIDENCE OF CERTAIN INFERTILITY PROBLEMS AMONG COWS AND BUFFALOES  
IN UPPER EGYPT  
(WITH 3 TABLES)

By  
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SUMMARY

- 1- 1857 infertile cattle and buffaloes including 605 cows (50 heifers and 555 cows) 1252 buffaloes ( 160 heifers and 1094 buffaloes ) were studied from gynecological point of view in Assiut, Menia and Sohag provinces.
- 2- The incidence of anoestrus was higher in buffaloes, cows and heifers ( 73.90% and 88.75% ) than in cattle ( 49.9% and 54.0% ).
- 3- Ovarian inactivity was the more frequent form of anoestrus in cattle and buffaloes. The total incidence was higher in buffaloes (81.04%) than in cattle (74.73%).
- 4- Very low incidence of persistent CL was recorded in heifers(cattle and buffaloes), while in cows it was higher (19.86% in cattle and 12.14 in buffaloes).
- 5- The incidence of silent heat was slightly higher in buffaloes than cattle. It was higher in heifers than cows.
- 6- The incidence of repeat breeding syndrome was higher in buffalo: cows than heifers. The percentage of repeat breeding with apparent healthy genitalia was slightly higher in cows than heifers, while that with endometritis was higher in both cows and buffaloes in the three provinces than that with cervicitis only.

INTRODUCTION

Infertility problems among cows and buffaloes are directly related to the nutritional needs of the human population as well as to the economic status of the country. WHABY (1964) estimated the economic losses due to infertility problems in Egyptian cows and buffaloes to be about 44 million pounds per year. However, there is a few literature showing the incidence of infertility in cows and buffaloes which might be a cause of reproductive failure.

Repeat breeding in cattle and buffaloes constitutes one of the major infertility problems in Egypt. An approximate data, during the period from 1952 to 1956, was given by the National Research Council at Bahtim, Egypt, which found that 40% out of 3000 buffaloes were irregular breeders. This percentage was also recorded in the Egyptian governmental farm by LUNDGREN (1956).

EL-NAGGAR and EL-SHERRY (1974) reported that the incidence of repeat breeding syndrome among buffaloes in Assiut province was found to be 22%. Similar results regarding the incidence of repeat breeding among Egyptian cattle and buffaloes were reported by ( RAKHA, 1958; EL-SAWAF, FARRAG and SAMEH, 1960; ZAKI, ABDEL-RAOUF,SIAM, 1961; AWAD, 1972; EL-HAIRIRI, ZAKI and DEEB, 1976; AWAD, AFIEFY and AYOUB 1977, EL-SAWAF and SHALABY, 1977).

In cattle, the incidence of anoestrus was 29.6% (ZAKI, EL-WISHY, OSMAN and AFIFY, 1963). AFIFY, ABUL-FADLE and ZAKI (1971) found that the activities of the ovaries reached 85.75% in winter and 65.65% in summer. EL-TATEB (1976) reported that the incidence of ovarian subfunction was 23.5% in cattle.

The incidence of anoestrus due to ovarian inactivity in buffaloes as reported by SHOKIER (1958), EL-SAWAF and SCHMIDT, (1962); SCHMIDT, EL-SAWAF and GHARIB, (1963) and EL-WISHY, (1965) were 2.6%, 10.3%, 38.7% & 36.55% respectively. In Assiut province, FARRAG (1978) found that the incidence of ovarian inactivity in buffaloes was 21.31%.

The aim of this work was to study the incidence of different forms of infertility in Egyptian cows and buffaloes in Upper Egypt (Assiut, Sohag and El-Menia provinces) in order to deal with such problems scientifically.



## MATERIALS AND METHODS

During the period from October, 1978 to October 1980, the ambulatory clinic of the Dept. of Obst. and Gynaecology Faculty of Vet. Med. Assiut University. had visited the provinces of Assiut, Sohag and El-Menia.

A total of 1857 infertile cows and buffaloes were included in this study and distributed according to their diagnosis in (Table 1).

Unfortunately, these animals were of unknown breeding history and owned sporadically by the farmers in the different villages of these provinces. The majority of animals were naturally mated and few number were artificially inseminated. The age of heifers ranged from 1.5-2 years in cattle and from 2-2.5 years in buffalo.

Detailed Gynaecological examination for each animal was performed. Rectal examination was applied for all animals, while the vaginal examination was performed when necessary. The colour, consistency as well as the quantity of the vaginal discharge if present were reported.

## RESULTS

The results of the present study are shown in Table (1-3), the causes of reproductive disorders in cattle and buffaloes were anoestrus and repeat breeding syndrome.

It is clear from Table (1) that in the three provinces ( Assiut, Sohag and El-Menia ), the total incidence of anoestrus in buffaloes (73.90%) was higher than that reported in cattle (49.91%). Among buffalo cows and heifers the percentages of anoestrus were (79.21 and 92.78%) in Assiut, (52.26 and 80.00%) in Sohag, and (75.94 and 83.33%) in El-Menia. In cattle, the total incidence of anoestrus was nearly similar in cows (54.0%) and heifers (49.91%).

From Tables (2 and 3), ovarian inactivity was the more frequent form of anoestrus in cattle and buffaloes in the three provinces and it was higher in buffalo cows (81.04%) than in cattle (74.73%). Its incidence in cattle and buffalo heifers in three provinces was nearly similar (Tables 2 and 3).

The persistent corpus luteum was rarely met with either in cattle or in buffalo heifers. However, its incidence was higher in cows (20.89%, 18.99% and 17.50%) than in buffalo cows (12.46%, 12.50% and 9.90%) in the three provinces respectively (Tables 2 & 3).

The values obtained for the percentage of silent heat were slightly higher in buffalo cows (6.82%) than cattle (5.41%). However, higher values were reported for buffalo heifers (23.24%) and cattle heifers (14.81%) (Table 2 & 3).

Regarding the repeat breeding syndrome, the total incidence was higher in cattle heifers 45.0% and cows 50.09%, than in buffaloes heifers 11.25% and cows 26.10% (Table 1).

According to repeat breeder syndrome, two forms were observed ( Tables 2 & 3 ). The incidence of repeat breeding with clinically normal genitalia was higher in cows than heifer in both cattle and buffalo.

TABLE (1)

The incidence of Anoestrus and Repeat breeder among cattle and buffaloes in Upper Egypt.

Provinces of Upper Egypt	Anoestrus				Repeat breeder			
	Heifers		Cows		Heifers		Cows	
	Cattle	Buffaloe	Cattle	Buffaloe	Cattle	Buffaloe	Cattle	Buffaloe
Assiut	14	90	158	602	10	7	149	158
Sohag	4	12	79	104	6	3	87	95
El-Menia	9	40	40	101	7	8	42	32
Total	27	142	277	807	23	18	278	285



## INFERTILITY PROBLEMS, COWS AND BUFFALOES

Table (2): Types of infertility problems in cattle in Upper Egypt .

Types of infertility	Assiut				Sohag				El-Menia				Total	
	Heifers		Cattle		Heifers		Cattle		Heifers		Cattle		Heifers	Cattle
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
<b>I. Anoestrus :</b>														
a) Inactive ovaries	12	85.71	117	74.05	3	75.00	59	74.68	8	88.89	31	77.50	23 (85.19)	207 (74.73)
b) Persistent C.L.	-	-	33	20.89	-	-	15	18.99	-	-	7	17.50	-	55 (19.86)
c) Silent heat	2	14.29	8	5.06	1	25.00	5	6.33	1	11.11	2	5.00	4 (14.81)	15 (5.41)
Total	14	100.00	158	100.00	4	100.00	79	100.00	9	100.00	40	100.00	27 (100.00)	277 (100.00)
<b>II. Repeat breeder :</b>														
a- Clinically normal genitalia	4	40.00	67	44.97	3	50.00	37	42.53	3	42.86	20	47.62	9 (39.13)	124 (44.60)
b- Chronic cervicitis	3	30.00	24	16.11	1	16.67	11	12.64	2	28.57	6	14.28	6 (26.09)	41 (14.75)
c- Chronic endometritis	3	30.00	58	38.93	2	33.33	39	44.83	2	28.57	16	38.10	8 (34.78)	113 (40.65)
Total	10	100.00	149	100.00	6	100.00	87	100.00	7	100.00	42	100.00	23 (100.00)	278 (100.00)

Table (3): Types of Infertility problems in Buffaloes in Upper Egypt.

Types of Infertility	Assiut				Sohag				El-Menia				Total			
	Heifers		Buffaloes		Heifers		Buffaloes		Heifers		Buffaloes		Heifers		Buffaloes	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
<b>I. Anoestrus :</b>																
a) Inactive ovaries	67	74.44	489	81.22	9	75.00	82	78.85	32	80.00	83	82.18	108	76.06	654	81.04
b) Persistent C.L.	1	1.11	75	12.46	-	-	13	12.50	-	-	10	9.90	1	0.70	98	12.14
c) Silent heat	22	24.44	38	6.32	3	25.00	9	8.65	8	20.00	8	7.92	33	23.24	55	6.82
Total	90	100.00	602	100.00	12	100.00	104	100.00	40	100.00	101	100.00	142	100.00	807	100.00
<b>II. Repeat breeder :</b>																
a- Clinically normal genitalia	2	28.57	68	43.04	-	-	38	40.00	2	25.00	14	43.75	4	22.22	120	42.11
b- Chronic cervicitis	2	28.57	32	20.25	1	33.67	16	16.84	2	25.00	6	18.75	5	27.78	54	18.95
c- Chronic endometritis	3	42.86	58	36.71	2	66.37	41	43.16	4	50.00	12	37.50	9	50.00	111	38.94
Total	7	100.00	158	100.00	3	100.00	95	100.00	8	100.00	32	100.00	18	100.00	285	100.00



## DISCUSSION

In the three provinces, the results revealed that anoestrus in buffaloes was higher than in cattle. This observation was in agreement with the findings of EL-TAIEB (1976) in Sharkia province. Similar results were obtained by EL-SAWAF and SHALABY (1977). Moreover, SCHMIDT ET AL. (1963) and EL-WISHY (1965) cited that the high percentage of missed heat and ovarian inactivity among buffaloes are the suggested causes.

Our results showed that the incidence of anoestrus was higher in cows and buffaloes than in heifers in the three provinces. This might be attributed to age variations.

In both cows and buffaloes, ovarian inactivity was the more frequent cause of anoestrus and the incidence was higher in buffaloes than cows. EL-SAWAF and SCHMIDT (1962) concluded that cattle are more resistant to seasonal variations or temperature than buffaloes and suggested that the hypofunction of the thyroid gland are more frequently observed in buffaloes during summer. Therefore inactive ovaries would be expected to be more frequent in buffaloes than cattle in Upper Egypt where temperature is higher than lower Egypt.

In lower Egypt, BARR (1963) reported that the incidence in both cattle and buffaloes are nearly equal (25.4%), while EL-TAIEB (1976) found an incidence of 31.34% in cattle and 37.48% in buffaloes. SCHMIDT ET AL. (1963) and EL-WISHY (1965) reported similar results. EL-SAWAF and SHALABY (1977) recorded that the incidence was (53.84%) and (52.56%) in cattle and buffaloes, respectively. These values are lower than those obtained in the present study and the differences between the Upper and Lower Egypt may be attributed to the variations in the climate as well as in the mineral content of the ration which needs further study. PATEL, MEMON and MISTRY (1966) cited that many factors like plant type, fertilizer, soil, climate factors (Temperature and humidity) and stage of maturity of the fodder has an indirect influence on the activity of the ovaries.

It is clear that the incidence of persistent corpus luteum was higher in cattle than in buffaloes in the three provinces. This agrees with BARR and HASHIM (1968) and EL-SAWAF and SHALABY (1977) who attributed this difference to species variations.

In regard to silent heat, we found that the incidence was slightly higher in buffaloes than in cattle in all examined animals. This agrees to a large extent with the results of HAFEZ (1952) in buffaloes. On the other hand, BARR and HASHIM (1968), EL-TAIEB (1976) and EL-SAWAF and SHALABY (1977) in Sharkia province reported slightly higher incidence in cows than buffaloes.

It is evident from Tables 2 & 3, that the incidence of silent heat was higher in heifers (Cattle 14.81% buffaloes 23.24%) than cows (Cattle 5.41%, buffaloes 6.82%). This might be due to the delayed sexual puberty in cattle and buffaloes than expected as the examined heifers aged (1.5-2 years) in cattle (2-3 years) in buffaloes. HIGNETT (1940) and (1950), REID (1949), LAING (1970) and RORBERTS, (1971) cited that feeding is responsible for the onset of puberty in cattle. In our opinion, the nature of feeding plays a major role in the disturbances of such infertility problems among our domestic animals.

The incidence of repeat breeding was higher in cattle than in buffaloes, and this agrees with EL-NAGGAR and EL-SHERRY (1974) in Assiut and EL-SAWAF and SHALABY (1977) in Sharkia province. Moreover, CASTANEDA (1971) mentioned that buffaloes are highly resistant to infectious diseases than cattle.

In the three provinces, the incidence of repeat breeding without any inflammatory lesions was higher in cattle than in buffaloes. Similar results were reported by EL-HARIRI ET AL. (1976) and EL-SAWAF and SHALABY (1977) stated that short cycles, delayed ovulation and failure of ovulation are considered as causes of infertility and repeat breeding without inflammatory lesions in cattle.

The over use of individual bulls for normal mating in the village (5-10 times daily) might be responsible for the high percentage of repeat breeders with apparently normal genitalia in the present study.

Endometritis as a cause for repeat breeding occupied a high percentage in cows (Cattle and buffaloes) in the three provinces. AFANASJEVS, (1972) and CUPPS, (1973) recorded an incidence ranged between 54-65% in cattle which is comparable with our values. However, lower incidence (18.42% and 12.83% for cattle and buffaloes respectively) was reported by EL-SAWAF and SHALABY, (1977).



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However the incidence of repeat breeding with inflammatory genital lesions was high in our local cattle and buffaloes, such result is expected as these animals are subjected to unhygienic and faulty management during parturition and puerperium.

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