

**إستخدام السونار فى دراسة ميكانيزم نمو الجريبات فى الجاموس
تحت بعض أنظمة التحكم بالشبق**

رسالة علميه

مقدمة إلى الدراسات العليا بكلية الطب البيطرى- جامعة الاسكندريه
إستيفاء للدراسات المقرره للحصول على درجه

ماجستير العلوم الطبيه البيطريه

فى

التوليد والتناسل والتلقيح الاصطناعى

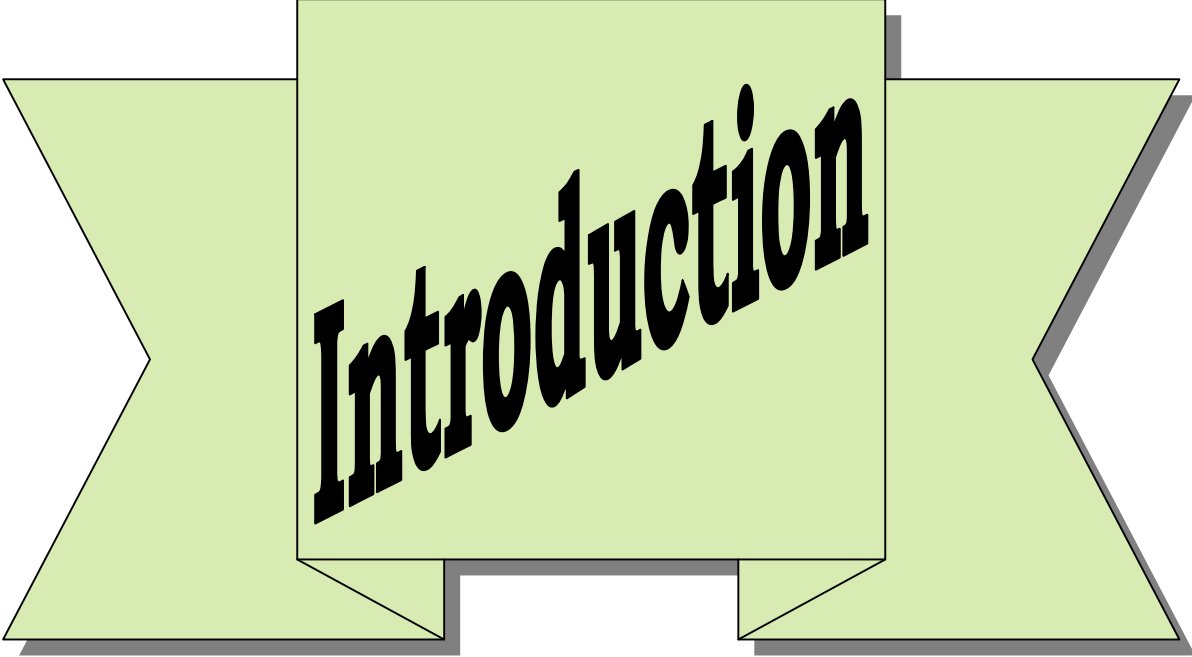
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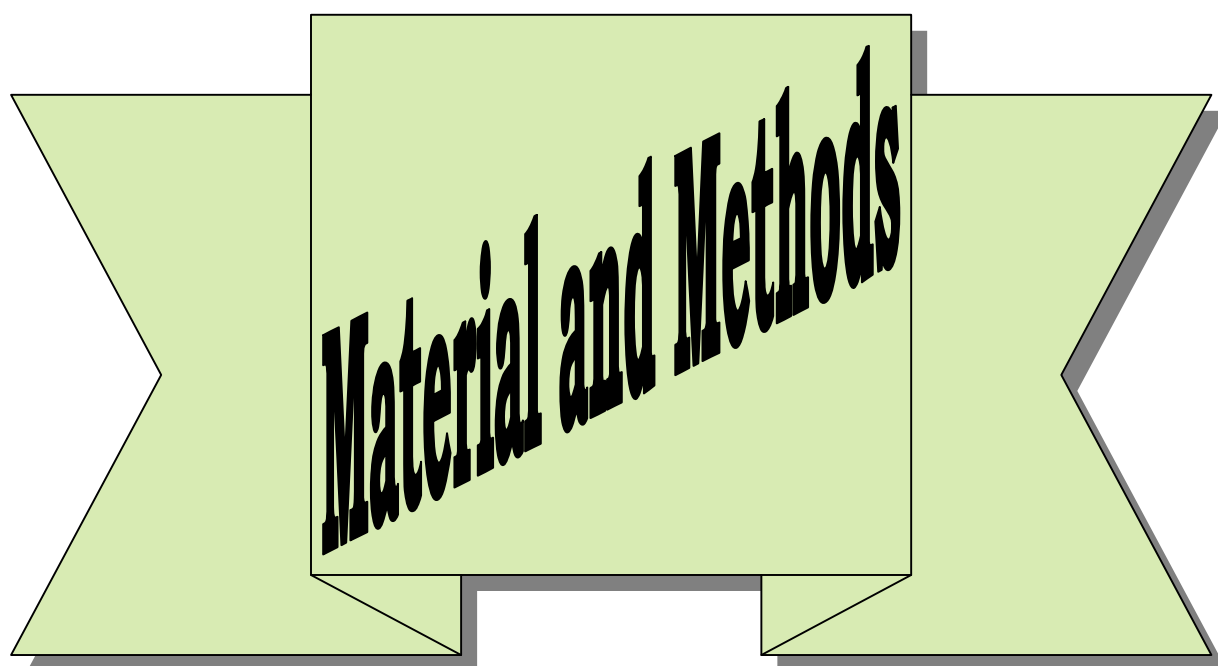
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Dedication

This work is dedicated to my parents, wife, brother and sisters without their patience, understanding support and most of all love, the completion of this work not have been possible.



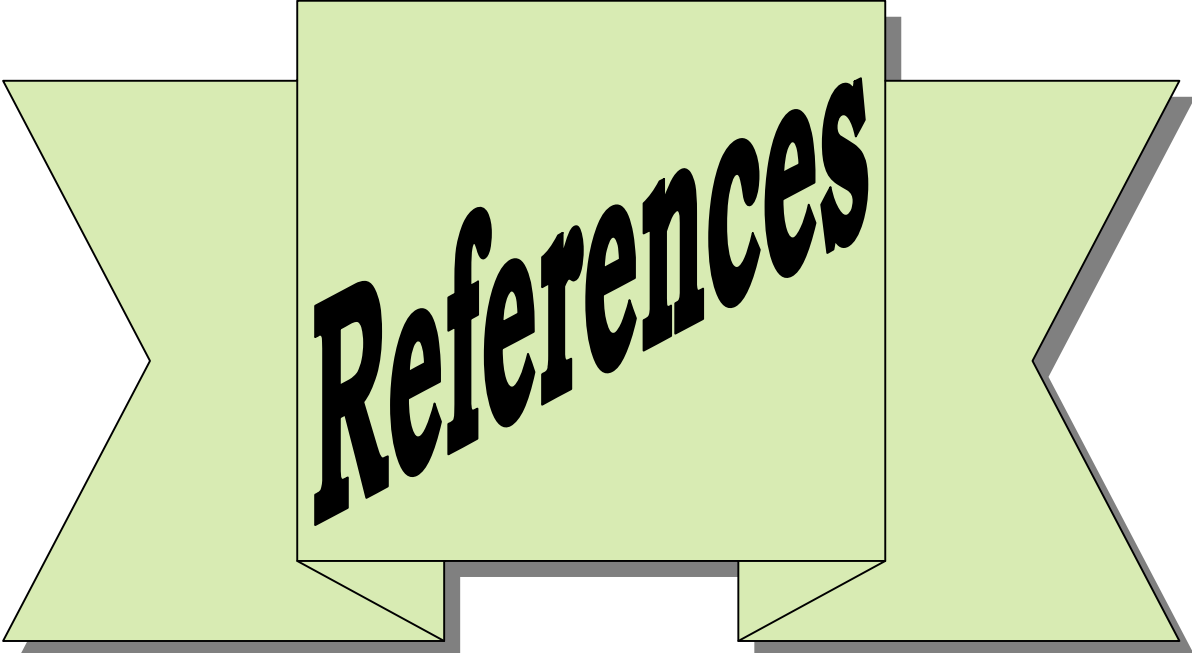
Introduction



Review of Literature







References





Contents

Contents	Page No.
1-Introduction	1
2-Review of literature	3
3-Materials and Methods	18
4-Results	21
5-Discussion	64
6-Summary	72
7-References	74
Arabic summary	

List of Tables

Table No.	Table	Page No.
1	The mean diameter $\pm$ SE of the dominant follicle in the 1 st , 2 nd waves and CL diameter in buffaloes with 2-wave pattern of follicular development (n=8)	22
2	Mean $\pm$ SE in progesterone and estradiol levels in buffaloes show two wave pattern of follicular growth (n=8)	27
3	The mean diameter $\pm$ SE of the dominant follicle in the 1 st , 2 nd and 3 rd waves and CL diameter in buffaloes with 3-wave pattern of follicular development (n=3)	30
4	Mean $\pm$ SE in progesterone and estradiol levels in 3-wave pattern of follicular growth (n=3)	35
5	Characteristics (mean $\pm$ SE) of estrous cycles in Buffaloes having 2, 3 follicular waves	38
6	Mean diameter $\pm$ SE of ovulatory follicle and CL diameter after treatment with one dose PGF _{2α} till estrus (n=4)	39
7	Mean $\pm$ SE of progesterone and estradiol levels after treatment with one dose PGF _{2α} till estrus (n=4)	43
8	The mean diameter $\pm$ SE of anovulatory, ovulatory follicle and CL diameter after treatment of animals using double doses of PGF _{2α} 11 days apart (n=5)	46
9	Mean $\pm$ SE of Progesterone and estradiol levels in animals treated with double doses of PGF _{2α} 11 days apart (n=5)	50
10	The mean diameter $\pm$ SE of follicular development and corpus luteum diameter during Ovsynch protocol in animals that ovulated after 1 st GnRH injection (n=4)	53
11	The mean diameter $\pm$ SE of follicular development and corpus luteum diameter during Ovsynch protocol in animal that did not ovulate after 1 st GnRH injection (n=1)	55
12	Progesterone and estradiol levels during Ovsynch protocol in animals that ovulated after 1 st GnRH injection (n=4)	60
13	Progesterone and estradiol levels estimated during Ovsynch protocol in animals that did not ovulate after 1 st GnRH injection(n=1)	62

List of Figures

Fig No	Figure	Page No
1	The mean diameter $\pm$ SE of the dominant follicle in the 1 st , 2 nd waves and CL diameter in buffaloes with 2-wave pattern of follicular development (n=8)	23
2	Ultrasound images of the two ovaries in buffaloes showing 2-wave pattern of follicular development the images are taken on the day of emergence of 1 st wave, the day of emergence of the 2 nd wave and preovulatory day (A, B and C, respectively)	24
3	Ultrasound images of the two ovaries in buffaloes showing 2-wave pattern of follicular development on the day of CL growth, maturation and regression (A, B and C, respectively).	25
4	Pattern of changes in progesterone and estradiol levels in buffaloes show 2-wave pattern of follicular growth (n=8)	28
5	The mean diameter $\pm$ SE of the dominant follicle in the 1 st , 2 nd , 3 rd waves and CL diameter in buffaloes with 3-wave pattern of follicular development (n=3)	31
6	Ultrasound images of the two ovaries in buffaloes showing 3-wave pattern of follicular development on the days of emergence of 1 st , 2 nd and 3 rd wave and preovulatory follicle (A, B, C and D, respectively)	32
7	Ultrasound images of the two ovaries in buffaloes showing 3-wave pattern of follicular development on the days of CL growth, maturation and regression (A, B and C, respectively).	33
8	Pattern of changes in progesterone and estradiol levels in buffaloes show 3-wave pattern of follicular growth (n=3)	36
9	Mean diameter of ovulatory follicle and CL diameter after treatment of the buffaloes using one dose of PGF _{2α} (n=4)	40
10	Ultrasound images of the two ovaries in buffaloes treated with single dose of PGF _{2α} showing pattern of follicular development and CL regression (A, B, C, D and E, respectively).	42

11	Pattern of changes in progesterone and estradiol levels after treatment with single dose of PGF_{2α} till estrus (n=4)	44
12	The mean diameter±SE of anovulatory, ovulatory follicle and CL diameter after treatment of animals using double doses of PGF_{2α} 11 days apart (n=5)	47
13	Ultrasound images of the two ovaries in buffaloes treated with double doses of PGF_{2α} showing the pattern of follicular development and CL regression on the days of 1st, 2nd injection and day of estrus (A, B, C, D, E and F, respectively)	48
14	Pattern of changes in progesterone and estradiol levels in animals treated with double doses of PGF_{2α} 11 day apart (n=5)	51
15	Pattern of changes in follicular diameter and CL diameter during Ovsynch protocol in four animals ovulate after 1st GnRH injection	54
16	Pattern of changes in follicular and CL diameter during Ovsynch protocol in 1 animal does not ovulate after 1st GnRH injection.	56
17	Ultrasound images of the two ovaries in buffaloes during ovsynch protocol showing the pattern of follicular development and CL regression during days of hormonal treatment and day of estrus (A, B, C and D, respectively).	57
18	Ultrasound images of the two ovaries in buffaloes during ovsynch protocol showing the pattern of follicular development and CL regression during days of hormonal treatment and day of estrus (E, F, G and H, respectively).	58
19	Pattern of changes in progesterone and estradiol levels during ovsynch protocol in four animals ovulate after 1st GnRH injection (n=4)	61
20	Pattern of changes in progesterone and estradiol levels during Ovsynch protocol in animal does not ovulate after 1st GnRH injection (n=1)	63

Introduction

Buffaloes in Egypt are considered as one of the most valuable animal species in regards to its milk production of high fat concentration beside the palatability of its meat.

The productivity of female buffaloes is essentially affected by the animal's reproductive efficiency, which is, in turn, impaired by the late maturity of females, poor estrus expression, longer intercalving intervals, and reduced ovarian activity during hot season (**Jainudeen and Hafez, 1993; Madan, Das and Palta, 1996 and Singh, Nanda and Adams, 2000**). In addition, the poor estrus detection (30-40%) (**Singh, Singh, Sharma and Sharma, 1984 and Barkawi, Bedeir and El Wardani, 1993**), the variable duration of estrus (4-64 h) and the difficulty encountered in predicting the time of ovulation (**Ohashi, 1994 and Baruselli, Bernandes, Barufi, Braga, Araujo and Tonathi, 2001**).

The low reproduction potential of the buffalo has been a major concern for decades, but recently protocols have been developed that are able to precisely control the time of ovulation and thus avoid the need of estrus detection. For the successful application of a synchronization protocol, clear knowledge of the hormonal regulation of the estrous cycle and follicular dynamics are required (**De Rensis and Lopez-Gatius, 2007**).

The mechanisms that control follicular dynamics during the estrous cycle need to be better understood in order to optimize buffalo reproduction. Also, the physiological control of recruitment, selection, growth, dominance and atresia of ovarian follicles in buffalo are not well understood and reports are conflicting (**Baruselli, Mucciolo, Visintin, Viana, Arruda, Madureira, Oliveira and Molero-Filho, 1997**).

For successful breeding of buffalo using reproductive biotechnology, further study of the physiology of buffalo ovaries is needed to establish successful procedures such as artificial insemination and embryo transfer (**Baruselli *et al.*, 1997**).

The non-invasive nature of ultrasonography makes it an excellent clinical and research tool in bovine reproduction, so that it has been used tremendously in the field of bovine reproduction, and allowed monitoring of individual follicles as they grow and/or regress over time and patterns of follicular development can thus be determined with relative precision (**Abdullahi Y. Ribadu and Toshihiko Nakao, 1999**).

In the early 1990s, application of transrectal ultrasonography for imaging ovarian follicles was helpful for studying folliculogenesis in buffalo (**Manik, Madan, Ambrose, Singla and Chauhan, 1992; Manik, Ambrose, Singla, Chauhan and Madan, 1994a and Manik, Madan and Singla, 1994b**).