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شبكة المعلومات الجامعية

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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها  
علي هذه الأفلام قد أعدت دون أية تغييرات



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REPRODUCTIVE PERFORMANCE OF THREE  
RABBIT BREEDS AS AFFECTED BY  
ARTIFICIAL INSEMINATION AND / OR  
NATURAL MATING

BY

*M.90 of*

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**THESIS**

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**(Poultry Physiology)**

**Poultry Department**  
**Faculty Of Agriculture, El-Fayoum**  
**Cairo University**

**2000**

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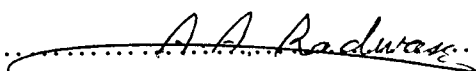
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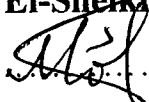
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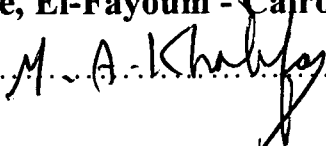
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## ABSTRACT

This study was carried out to evaluate the reproductive performance of three breeds of rabbits (New Zealand White, Californian and Senawy). I. Reaction time/second. II. Semen characters (A): Semen physical characters (Volume, colour, density, pH, mass motility, advanced motility (%), sperm cell concentration  $\times 10^6$ , live sperm (%), normal sperm (%), number of live sperm per ejaculation, number of normal sperm per ejaculation, packed sperm volume (%), abnormalities (%), the ratio values of semen volume, the ratio values of sperm concentration/ml, the ratio values of sperm concentration/ ejaculate). (B): Chemical characters (Initial fructose, total cholesterol, total phospholipids, total phosphorus, total calcium and total nitrogen). III. The effect of breeds, sequence of ejaculation and diluent under natural mating conditions and artificial insemination conditions on reproductive performance of rabbits (Number of services per conception, gestation period, litter size at birth and at weaning, bunny weight at birth and at weaning, litter weight at birth and at weaning, mortality rate up to weaning and fertility rate). The results showed that, reaction time in New Zealand White was better than Californian and Senawy. But, the second ejaculate was better than first ejaculate. The effect of breed on semen characters were a highly significant difference at  $p < 0.01$  between both breeds of rabbits of all the characters but, it was non significant difference of the ratio values of sperm concentration/ml. Generally, New Zealand White was better than Californian and Senawy. While, the effect of sequence of ejaculation was a highly significant difference at  $p < 0.01$  between both breeds of rabbits of all the characters but, it was significant difference at  $p < 0.05$  of semen colour. Generally, the second ejaculates were better than the first ejaculates. The different types of sperm

abnormalities as affected by breed was a highly significant difference at  $p < 0.01$  between both breeds of rabbits of all the abnormalities but, it was significant difference at  $p < 0.05$  of giant head, dwarf head and long tail. Generally, New Zealand White was better than Californian and Senawy. While, the effect of sequence of ejaculation was a highly significant difference at  $p < 0.01$  between both breeds of rabbits of giant head, long head and protoplasmic droplets but, it was significant difference at  $p < 0.05$  of coiled tail and bent tail. While, it was not significant difference in all the abnormalities another. Generally, the second ejaculates were better than the first ejaculates. The effect of natural mating on reproductive performance of rabbits was a not significant between both breeds of rabbits of all the characters. But, it was a significant difference at  $p < 0.05$  of litter weight at birth and it was a highly significant difference at  $p < 0.01$  of bunny weight at birth and at weaning. The effect of artificial insemination on reproductive performance of rabbits as affected by breed was a highly significant difference at  $p < 0.01$  of all reproductive performance of rabbits. But, it was a not significant difference of number of serves per conception, litter size at birth and at weaning and mortality rate. Generally, Californian was better than New Zealand White and Senawy. While, as affected by sequence of ejaculation was a not significant difference between the first and second ejaculate of all reproductive performance of rabbits. But, it was a highly significant difference at  $p < 0.01$  of gestation period and it was a significant difference at  $p < 0.05$  of bunny weight at birth. Generally, the first ejaculates were better than the second ejaculates. The effect of dilution on reproductive performance of rabbits was not significant difference between the first and second dilution of all characters. But, it was a highly significant difference at  $p < 0.01$  of gestation period, litter size at birth and litter weight at birth. While, it was a significant difference at  $p <$

0.05 of litter size at weaning. Generally, the second diluents were better than the first diluents. Fertility rate in natural mating was 85 %, 87.5 % and 75 % of New Zealand White, Californian and Senawy, respectively. While, in artificial insemination it was 65.63 %, 62.5 % and 62.5 %, respectively. It was 61.25 % and 66.25 % of first and second ejaculates, 56.25 % and 71.25 % of first and second dilution, respectively.

Key Words: Rabbit; Semen characters (Physical and chemical); Natural mating; Artificial insemination; sequence of ejaculation; Dilution; Reproductive performance; Fertility.



Dedication

**TO** those whom I love

**TO** my family who gives me hope, confidence

and a great will to be, to maintain

and to resist.

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