

RELATIONSHIPS BETWEEN THE MILK PRODUCTION AND FERTILITY OF ANGORA DOES

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Introduction

The literature on the milk production of does deals mostly with meat breeds. Very many data are available of the New Zealand White rabbits. Various authors reported a correlation of 0,5-0,7 between the milk production and litter size at birth in the most breeds. According to this findings, a close correlation could be stated between these traits.

Material and methods

In the Research Farm of the Animal Breeding Faculty ATE the milk production of 44 Angora does was investigated during the lactation period of 42 days. The investigations were carried out in special cages with two separate parts. The separate housing of the does and the young rabbits made possible the weighting of the progenies before and after suckling. From the differences between the body weights could be stated the milk production of does.

Results

The milk production of 44 Angora does during the lactation period of 42 days varied from 1110 g to 4625 g. The average milk production amounted to 3090 g. Based on the milk production data it could be stated that despite of the increase of milk production during the first 3 weeks of the lactation by 30 %, the Angora rabbits were inferior to the milk production ability of the meat breeds. The milk production of 44 Angora does was included in classes with 500 g differences/class. The milk performance of the does on the 1-3 days of lactation was separately weighted because this is a determining factor of the development and survival of the progenies. If the doe

is not able to produce sufficient milk for the progenies, the early growth capacity of the young rabbits could not be exploited and it is possible that the young animals will starve to death. It is very important factor the produced milk quantity until the 21th day of age because the young animals could not consume dry feedstuffs. Therefore, their body weight gain is exclusively determined by the quantity of the mother's milk.

The milk production curve (for 42 days) of the various groups is similar. The differences between the milk performances could be attributed to the various levels of production. The does with higher performances are in every stage of the lactation superior to the does with lower performances. Further on, the sudden changes of milk production of some does were investigated too.

In the milk production experiments by the systematic control of the does could be stated that the dams with low milk performances heated at the beginning of the lactation, i.e. 24-48 hours after kindling. Becoming aware of this situation, systematic controls were carried out and a close correlation was found between the sudden changes of milk production and the heat of the does. No heat could be detected in the case of the does with high milk production until 18-20 days neither the drop of the milk production could be stated. Later on, a close correlation was found also in this group between the cyclic character of heat and the fluctuation of the milk performance.

Based on these observations, we investigated the relationships between the number of suckling rabbits and the rate of next conception, the remating interval was 14 days. It was stated that the correlation between these traits is similar to those of the meat breeds. The does suckling 6 or more young rabbits did not become pregnant and the does with 1-4 suckling young animals had a conception rate of about 90 %. This tendency is similar to those of the meat rabbits.

Because of the overstrain of the Angora does (dual purpose), the dividing line is clear-cut, where the sudden changes of the conception rate take place. That means that it has no reason the mating of Angora does with 6 or more suckling rabbits in the first 2 weeks after kindling. At the same time, the does with 1-2 young rabbits should not be empty for a long time.

Conclusion

- Based on the relationships between the produced milk in separate stages of lactation and the successfulness of the re-breeding it could be stated that
- the dams with large litters could not be successfully mated in the increasing stage of the lactation,
 - the does with low milk production (small litters) show a heat after kindling,
 - the dams with small litters should be mated for economic reasons at the first signs of oestrus,
 - a close correlation of $r = 0,69$ was found between the milk production at 21 days of age and the body weight gain of the progenies,
 - a correlation of 0.63 was calculated for the milk production at 42 days and the body weight gain of the progenies,
 - a correlation of 0.83 was found between the milk production at 21 days and at 42 days.

Table 1

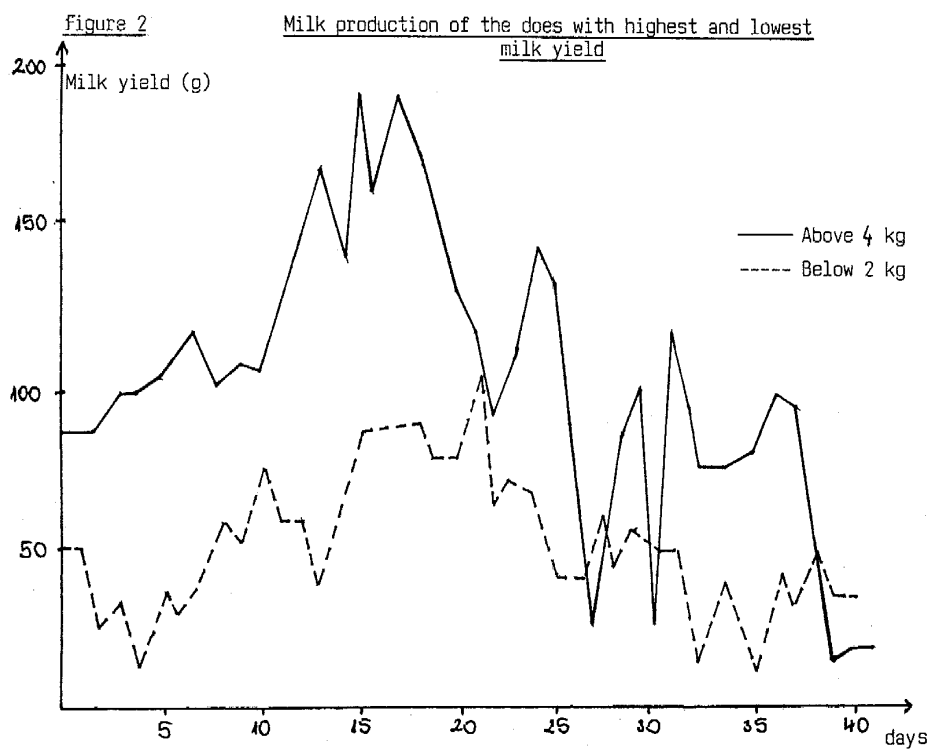
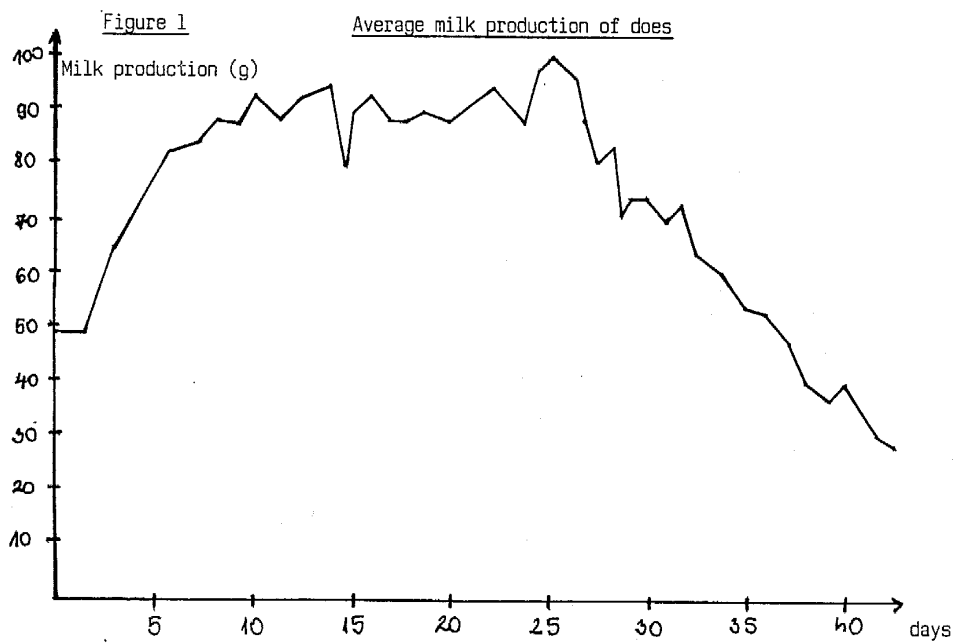
Milk yield of the does in various periods of the lactation

| Group | n | M i l k p r o d u c t i o n | | |
|------------|----|-----------------------------|----------------|----------------|
| | | 3 days of age | 21 days of age | 42 days of age |
| Below 2 kg | 3 | 178 | 1062 | 1362 |
| 2.0-2.5 kg | 4 | 98 | 1354 | 2353 |
| 2.5-3.0 kg | 11 | 121 | 1514 | 2725 |
| 3.0-3.5 kg | 15 | 149 | 1848 | 3250 |
| 3.5-4.0 kg | 8 | 181 | 2028 | 3835 |
| above 4 kg | 3 | 267 | 2473 | 4350 |

Table 2

Litter size, litter weight and losses during the rearing period depending on the milk production of does

| Group | Litter size at birth | Litter weight g | Litter size at 21 days of age | Litter weight g | Mortality % (0-21 days) | Litter size at 42 days of age | Litter weight g | Mortality % (0-42 days) |
|--------------|-------------------------|--------------------|----------------------------------|--------------------|----------------------------|----------------------------------|--------------------|----------------------------|
| below 2 kg | 6,7 | 301 | 1,7 | 419 | 75 | 1,3 | 1084 | 81 |
| 2.0-2.5 kg | 5,0 | 236 | 3,5 | 929 | 30 | 2,5 | 2074 | 50 |
| 2.5-3.0 kg | 5,9 | 312 | 4,1 | 1169 | 31 | 3,4 | 2870 | 42 |
| 3.0-3.5 kg | 7,1 | 381 | 5,5 | 1225 | 23 | 5,0 | 3699 | 30 |
| 3.5-4 kg | 7,5 | 399 | 6,1 | 1586 | 19 | 5,9 | 4617 | 21 |
| above 4.0 kg | 8,0 | 426 | 7,0 | 1585 | 13 | 7,0 | 4781 | 13 |



RELATIONSHIPS BETWEEN THE MILK PRODUCTION AND LITTER SIZE OF RABBITS

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According to the opinion of various authors the litter size is one of the most important factor influencing the milk production of female rabbits. On the one hand high correlation coefficient (+ 0,64) was found between the litter size and milk yield, on the other hand by increasing of the litter size a decrease of milk intake per snekling rabbit could be stated. The experimental data mentioned above concern the various meat rabbit breeds. In our experiments carried out on the Research Station, the validity of these tendencies for the Angora rabbits was investigated. Similar tendencies could be stated between litter size and milk yield in angora rabbits as in meat ones.

Zusammenhänge zwischen der Milchproduktion und der Wurfzahl bei Kaninchen

Die Wurfzahl ist von mehreren Verfassern als wichtigster Faktor angesehen, der die Milchproduktion der Muttertiere bei Kaninchen beeinflussen kann. Es konnten hohe Korrelationskoeffizienten (+ 0,64) zwischen der Wurfzahl und der Milchmenge festgestellt werden. Das bedeutet, dass durch die Erhöhung der Wurfzahl die Milchproduktion per Nachkommen vermindert sich. Die ausgeglichenen Leistungen der Mütter mit grossen Würfen sind als Garantie für die Aufzucht der Nachkommen aus grösseren Würfen zu betrachten. Die früheren Daten stammen fast ausschliesslich aus der Untersuchungen von Fleischrassen. Das Ziel der eigenen Untersuchungen bestand darin, die Gültigkeit dieser Tendenzen für Angora-Kaninchen zu bestätigen. Es konnte eine ähnliche Tendenz für die Zusammenhänge zwischen der Wurfzahl und der Milchproduktion nachgewiesen werden, wobei sich die Unterschiede nur in der Grössenordnung zeigten.

