

INVESTIGATIONS ON FREQUENT KINDLINGS WITH A VIEW TO  
BREEDING

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Introduction

Since the 70s, the effect of the post partum mating of does on the production was investigated by several authors. It was stated by most of them that the litter size at birth and at weaning in the groups mated immediately after parturition has decreased and the number of stillborn animals and the mortality during the suckling period has increased. At the same time, the individual gains and litter weight gains showed scarcely change (Surdeau et al., 1980, 1984; Harris et al., 1982; Szendrő et al., 1984; Partridge et al., 1984; Desalvo and Zucchi, 1985; Mendez et al., 1985).

From the data of the literature it could be concluded that considerable decreases of production is to be expected in the case of does mated shortly after parturition several times. In spite of this fact, we could state in our earlier investigations (Szendrő et al., 1983) performance above the averages for the does mated immediately after parturition in 3 or 4 consecutive gestations. These observations forced us to control the earlier statements eliminating the methodological errors and using larger populations.

Material and methods

Investigations were carried out on 2 New Zealand White (line H and G) populations in the rabbit farm of ÁTK. Production data of does mated immediately after parturition in 2 consecutive gestations (intensive group) at the age of 5 - 20 months were collected from the herdbook (litter size at birth and at the age of 21 days, body weight gain at 0 - 21 days of age of the litter

and of the individuals, ratio of the reared animals up to 21 days of age). At the same time, the data were collected from does which were at the same age and mated at the same season of the year and at the same rhythm without frequent kindlings (extensive group). In both groups of the line H 26 and 40 does, in the line G 45 and 99 does were included and 78, 62, 135 and 119 kindlings were evaluated, resp.

#### Results

The average performances, standard deviations, differences between the groups, results of t-tests (significance) are presented in the Table 1. It may be seen that the does from the intensive group were superior to the extensive group for all traits except the litter size at birth. The superiority of does mated immediately after parturition in several consecutive gestations was the greatest for the litter weight gain (10,4 - 11,0 %), followed by the individual body weight gain (6,2 - 9,8 %), ratio of reared animals (3,2 - 6,4 %) and the litter size at the age of 21 days (2,6 - 4,9 %).

#### Discussion

Comparing the data of literature and the results of our investigations an apparent contradiction could be suggested. The release of this contradiction could only be achieved by the right choosing of cause and effect because it is not mating immediately after parturition had a favourable effect on the investigated traits but the healthy females in good condition with performances above the average were able to be mated and conceived shortly after parturition. Based on these statements, reducing the remating interval after parturition could be considered as a loading test by which the animals standing out the intensive utilization could be selected. Therefore, the does with the best constitution could be selected by the selection to the increase of kindling frequency.

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Table 1

Production of does in intensive and extensive groups

Traits	Intensive		Extensive		Difference $\bar{x}_1 - \bar{x}_2$	Significance
	n	$\bar{x}_1 \pm s$	n	$\bar{x}_2 \pm s$		
<u>Line H</u>						
Litter size at birth	78	7.95 $\pm$ 2.41	62	8.21 $\pm$ 2.48	- 0.26	NS
Litter size at 21 days of age	78	6.68 $\pm$ 2.07	62	6.37 $\pm$ 2.31	+ 0.31	NS
Weight gain of litter, g (0-21 days)	78	1874 $\pm$ 416	62	1668 $\pm$ 582	+ 186	0.05
Weight gain, g, individual (0-21 days)	78	302 $\pm$ 90	62	275 $\pm$ 81	+ 27	0.1
Ratio of reared animals, %		84.0		77.6	+ 6.4	0.01
<u>Line G</u>						
Litter size at birth	135	8.08 $\pm$ 2.49	119	8.20 $\pm$ 2.53	- 0.12	NS
Litter size at 21 days of age	135	6.67 $\pm$ 2.14	119	6.50 $\pm$ 2.35	+ 0.17	NS
Weight gain of litter, g (0-21 days)	135	1937 $\pm$ 564	119	1755 $\pm$ 555	+ 182	0.01
Weight gain, individual, g (0-21 days)	135	307 $\pm$ 89	119	289 $\pm$ 95	+ 18	NS
Ratio of reared animals, %		82.5		79.3	+ 3.2	0.01

n = number of litters

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Investigations were carried out on the production traits of female rabbits with three times frequency of kindlings /intensive/ vs. female rabbits of similar age mated immediately after kindling but without frequent kindlings. Under same production conditions, the litter size at birth was by 0,42 - 0,26 lower in the intensive group. No significant differences could be detected between the litter size at 21 days of age in the groups /0,17 - 0,31/. The females from the intensive group were superior to the extensive group for the suckling mortality /5,2 - 6,4 %/, body weight gain of the litter at the age of 21 days /0,18 - 0,19 kg/ and for the individual weight gain /18 - 27 g/.

It was stated by the author that the mating post partum is only in that case favourable, if the females are suitable for this on the basis of their health status and constitution. The selection for the frequent kindlings is simultaneously a selection of individuals to better constitution.

UNTERSUCHUNG ÜBER DIE HÄUFIGKEIT DES WERFENS AUS ZÜCHTERISCHER SICHT

Verfasser untersuchte die Produktionseigenschaften weiblicher Kaninchen die 3mal nacheinander geworfen /intensive/ hatten, sowie die Produktionseigenschaften weiblicher Kaninchen mit normalem Wurf /extensive/. Unter gleichen Produktionsverhältnissen lag die Wurfzahl bei Gubert in der intensiven Gruppe um 0,42 - 0,26 niedriger. In der Wurfzahl nach 21 Tagen zeigten sich zwischen den Gruppen keine wesentliche Unterschiede /0,17 - 0,26/. Bessere Ergebnisse konnten für die intensiven Muttertiere in der Mortalität der saugenden Jungtieren /5,2 - 6,4 %/, in der Massenzunahme bis zum Alter von 21 Tagen /0,18 - 0,19 kg/ und in der individuellen Massenzunahme /18 - 27 g/ nachgewiesen werden. Daraus ist zu schlussfolgern, dass die Bedeckung post partum nur in dem Falle erfolgreich ist, wenn die Muttertiere aufgrund ihrer gesundheitlichen Lage und Konstitution geeignet sind. Die Selektion auf die Häufigkeit des Werfens bringt die Auswahl der Tiere mit besserer Konstitution mit sich.



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