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ESTIMATING THE POTENTIAL MILK PRODUCTION IN ORYCTOLAGUS CUNICULUS

Dorel Dronca¹, Ioan Pet¹, Gabi Dumitrescu¹, Lavinia Ștef¹, Liliana Ciochină Petculescu¹, Silvia Pătruică¹, Mirela Ahmadi¹, Marius Maftei², Adela Marcu¹, Mărioara Neagu-Nicula¹, Florica Morariu¹, Ion Caraba¹, Calin Julean¹, Saida Feier-David¹, Roxana Lazăr¹ *1University of Life Sciences "King Mihai I" from Timisoara, C. Aradului nr.119, Timisoara – 300645, Romania 2University of Agronomic Sciences and Veterinary Medicine, 59 Marasti Avenue, Bucharest – 011464, Romania Abstract: This study indirectly estimated milk production in domestic rabbits using offspring weight gain during the 0–21 day nursing period. F1 (NZW × CHL) hybrid*

females showed the highest milk yield, especially in the final lactation week, supporting their suitability as maternal lines.

• Introduction

Milk production in domestic rabbits is a complex quantitative trait influenced by multiple genes and environmental factors. Estimating lactation capacity is crucial for selecting high-performing maternal lines. This study utilized an indirect approach to assess milk yield in different rabbit genotypes, based on offspring growth during the nursing period.

Material and method

The study involved domestic rabbits of *New Zealand White* (NZW), *Chinchilla Large* (CHL), and *Californian* (CAL) breeds, along with their hybrids. These included simple F1 hybrids ($PNZW \times \sigma'CHL$) and F2 triracial hybrids (PF1 $\times \sigma'CAL$). Milk production was indirectly estimated using average daily weight gain of offspring during the 0–21 day suckling period, applying a conversion factor of 1.82 g milk per gram of weight gain, based on Lebas (1971).

Results and discussions

They also exhibited strong reproductive performance, with an average litter size of 8.50 ± 0.58 kits. These results emphasize the maternal advantages of F1 hybrids in crossbreeding schemes. The strong phenotypic correlation (rp = 0.90) between offspring weight gain and maternal milk yield further validates this indirect estimation method. It offers a reliable, non-invasive approach for assessing lactation capacity, particularly valuable in large-scale breeding programs. However, environmental factors and genetic variability among lines must still be considered when interpreting these

Results and discussions

The analysis revealed that the highest milk yield occurred during the 3^{rd} week of lactation (days 15–21), accounting for 42% of total milk output in NZW \bigcirc and 40% in F1 (NZW × CHL) hybrids. This pattern highlights the importance of the final lactation phase in supporting optimal offspring growth. Among all genotypes, the F1 (NZW × CHL) hybrid females demonstrated the highest total milk



• Conclusions

Semen collection at a frequency of 2–3 times per week provides optimal results for both sperm quantity and quality. This regimen supports the effective use of artificial insemination in domestic rabbits, ensuring sustainable genetic improvement







