PERFORMANCE OF NEW ZEALAND WHITE, CALIFORNIAN, CHINCHILLA AND BLACK AZTEC RABBITS AT THE CENTRO NACIONAL DE CUNICULTURA, MEXICO.

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ABSTRACT

At the Centro Nacional de Cunicultura (CNC, México) post weaning growth was evaluated comparatively. According to CNC managers, no new breeder animals have been introduced in the last 20 years, mainly as a result of sanitary barriers. Therefore, it is important to conduct performance evaluations of their animals. The evaluated breeds were New Zealand White, Californian, Chinchilla and Black Aztec; the evaluations were conducted at CNC, Mexico's premises. A total of 240 just weaned rabbits (35 d) were used, 60 rabbits per breed, 50 % females and 50 % males, which were individually tattooed for identification, all were kept in cages (90 x 60 cm, 6 specimens per cage). Daily (9:00 am), a kilogram of commercial rabbit feed was supplied. All animals were weighed weekly and slaughtered at 70 days of age. Weaning weight, weight at 70 d, feed efficiency, feed intake and specific growth rate (SGR) were evaluated. The values of weaning weight in Black Aztec, New Zealand White, Californian and Chinchilla breeds the means ± SE were 0.831, 0.815, 0.749 and 0.697 ± 0.002, respectively. For weight at 70 days 1.598 ± 0.024, 1.800 ± 0.023, 1.801 ± 0.023 and 1.776 ± 0.025 kg, respectively. The means for feed efficiency were 0.271 ± 0.006, 0.289 ± 0.006, 0.315 ± 0.007 and 0.315 ± 0.007 kg gain / kg feed, respectively. For the variable SGR 2.00 ± 0.05, 2.32 ± 0.05, 2.45 ± 0.04 and 2.53 ± 0.05 % animal per day following the breeds order mentioned above. Chinchilla breed can still be considered a dual purpose breed. We cannot rule out the Black Aztec breed for meat production, and further research on productive behavior is needed.

Keywords: Initial weight, final weight, feed efficiency.

Introduction

At the Centro Nacional de Cunicultura (CNC) post weaning growth and carcass yield for hybrid animals have been previously comparatively evaluated in animals obtained from the CNC (Puón, 2013; Zúñiga, 2009), currently, it has been decided to produce only pure breeds. According to the directors of the CNC, no new breeder animals have been introduced for 20 years, as a result of sanitary barriers that have arisen in recent years for importing animals (Ruiz, 1993); this suggests the need for new assessments to determine if it has emerged in improving of the CNC animals. The breeds that are counted are New Zealand White (NZ), Californian (Ca), Chinchilla (Ch), Azteca Black (AN), English Spot and Rex, being the subject of this work the first four breeds.

Materials

This experiment was conducted at the CNC premises located on the Irapuato-Salamanca road Km 4, Colonia Rafael Galván in the city of Irapuato, Guanajuato, Mexico. A total of 240 just weaned rabbits 5 weeks old, 60 rabbits per breed (50% female and 50% male) were used. All of them were kept in galvanized cages (60 x 90 cm).

Methodology

All rabbits were individually tattooed for identification, and kept 6 specimens per cage. Daily (9:00 am), 1 kg of commercial rabbit feed was supplied per cage (88% Dry Matter, Crude Protein 16%, Crude Fat 2% Crude Fiber 15% and 13% ash), removing the following morning the remnant and providing again one kg of fresh feed. Water was provided *ad libitium*. Initial weight, gain weight, total feed intake (TFI), feed efficiency (FE= net weight gain / consumed feed) and specific growth rate (SGR (% animal day^{-1}) = [(LnPh2-LnPh1) / t] * 100 (where: Ph2 and Ph1 are final weight and initial weight of each rabbit, Ln is the natural logarithm and t is the number of days in the experimental period) were all evaluated. All animals were weighed weekly and slaughtered at 70 days of age. Final weight, hot carcass weight (considering a hot carcass weight as the carcass weighed immediately after the skinned and eviscerated processes), cold carcass weight (considering cold carcass as the carcass after the washing and cutting processes 1 hour post-slaughter) were evaluated. Data were analyzed using one-way ANOVA, after review of

homogeneity of variances and the difference between means with a Tukey test. Data are shown as means ± SE.

Results y Discussion

Weaning weight in NZ breed showed a weight of 0.815 ± 0.002 and 0.831 ± 0.002 kg AN showing a similar behavior between these two breeds, Ca and Ch breeds showed a weight of 0.749 ± 0.002 and 0.697 ± 0.002 kg, respectively, these weights are higher than those reported by Ponce 2002 for Ca, Ch & NZ breeds with a weaning weight of 0.536, 0.559 and 0.570 kg, respectively. Compared to a study conducted by Zuñiga (2009), in the same CNC, the Ca and AN breeds have increased weaning weights, the NZ breed held a similar behavior and Ch breed showed that there is no improvement. For weight at 70 days, the Ca breed obtained a value of 1.801 ± 0.023 kg which is higher than Zuñiga (2009), NZ breed followed with 1,800 ± 0.023 kg, Ch breed obtained 1.776 ± 0.025 kg and 1.598 ± 0.024 kg by the AN breed with the lower weight value. NZ breed showed a lower value than the existing in 2009, however, for Ca and AN breeds an improvement in is observed at 70d weight. The initial weight and final weight values are lower in all breeds compared with the Egypt V-line rabbit used by Elmaghraby (2011), however, we should consider the genetic improvement developed in this line. CTA was higher in the NZ bred with 3497.27 ± 81.5953 g followed by Ca breed with 3235.55 ± 101.031, Ch 3146.88 ± 63,281 g and AN with 3095.93 ± 68,792 g. FE for Ca and Ch breeds shown to be more efficient with 0.315 ± 0.007 kg both races, the NZ and AN breeds showed an efficiency of 0.289± 0.006 kg and 0.271 ±0.006 kg respectively. The SGR was higher in Ch breed with 2.53 ± 0.05% followed by the NZ breed with 2.32 ± 0.05% for Ca breed the value was 2.45 ± 0.04% and for AN was 2.00 ± 0.05% animal day^{-1}.

Conclusion

For productive indicators FE and SGR Ch race scored the highest values so we could see that this breed can still be considered dual purpose (skin and meat). AN breed could not be dismissed as meat producer, and further research on productive behavior is needed.

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