

PRIMARY MEASUREMENT FOR PRODUCTION PERFORMANCE OF THE ORIGINAL AMERICA BREED REX RABBITS AND THEIR OFFSPRING

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ABSTRACT

In year of 2002, 304 Rex rabbits of three colors were introduced in two groups from the United States of American among them 224 were of white color type, 64 of California and 16 of Chinchilla ones. A breeding plan was made based on pedigree registration supplied by the exporter and Shanxi local conditions. True bred progeny second generation is consisted of 40 litters of white color, 30 litters of California and 10 litters of chinchilla color type. The results showed that the new introduced American Rex rabbit had a fairly good production performance and adaptability in China. The weaning survival rates for the white, California and Chinchilla were 92.5%, 89.3% and 88.5% and the individual weaning weight for the above mentioned three color types were 748.5g, 637.1g and 580.5g respectively. It demonstrated that the offspring of the pure bred grew quite well as the weaning weight, body weight at 150d. and the daily gain for the white, California and Chinchilla were 762.8g, 613.0g 560.0g; 2963.4g, 2939.3g, 2544.9g; and 20.19g, 1.35g, 18.21g respectively. As far as the hair coat is mentioned, the hair length for the original breed of the three color type white, California and Chinchilla are 2.10cm, 2.07cm and 2.08cm, which are in the range as recorded in literature. While the minimum length of 1.6cm shows a tendency of increase.

Key words: Rex rabbit, original breed, production performance, hair coat quality.

INTRODUCTION

In 2002, 304 Rex rabbits of three color types were introduced in two groups from the United States of American and a breeding plan was made based on pedigree registration supplied by the exporter and Shanxi local conditions. A good result has been got and it was described as the following.

MATERIALS AND METHODS

Animals

The experimental rabbits of the original Rex breed introduced from the United States of America and their offspring were supplied by Quanzhou Rabbit Development Limited Cooperation.

The original Rex breed rabbits introduced from the United States of America were 304, among them 224 were of white color type, 64 California (49 females and 15 males) and 16 Chinchilla ones (1 male and 15 females).

True bred progeny second generation is consisted of 40 litters of white color type, 30 litters of California and 10 litters of chinchilla ones.

Measurement items

All scales of the original like body size, production performance and hair coat quality fineness or length, and their offspring growth conditions (REN K. *et al*, 2002) were made.

Feeding management

During the measuring period all animals were kept in the same management conditions. They were *ad libitum* feeding and drinking. Three times feeding each day and every time enough feed until next time. Proper amount green chop and regulate cage cleaning and immune-prophylaxis inoculation.

RESULTS AND DISCUSSION

Body weight of the original breed

Table 1 shows that the average body weight for the does of the white, California and chinchilla color type were 3.88kg, 3.89kg and 3.91 kg, and for the bucks 3.79kg, 3.78 kg and 3.91kg respectively with no significant differences.

Body sizes of the original breed (Table 2)

Table 2 demonstrates that all color rabbits had similar body length, chest girth and ear length or width.

Table 1. Body weight of the original breed from USA

Color Type	Sex	Number	Average weight (kg)	Body weight (kg)	
				Maximum	minimum
white	♀	59	3.79	4.20	2.95
	♂	165	3.88	4.45	3.10
California	♀	15	3.78	4.55	3.25
	♂	49	3.89	3.85	3.05
Chinchilla	♀	6	3.91	4.40	3.55
	♂	10	3.99	4.20	3.15

Table 2. Body size of the original breed from USA

Color Type	Number	Body length (cm)	Chest girth (cm)	Ear length (cm)	Ear width (cm)
White	19	50.27	30.11	9.67	6.47
California	8	50.40	31.30	9.43	6.46
Chinchilla	19	51.25	30.92	9.85	6.38

Evaluation of the hair coat quality (Table 3)

Table 3 showed that the average hair length for the white, California and Chinchilla color types were 2.10cm, 2.07cm and 2.08cm with no significant differences.

Table 3. The hair coat quality measurement (mean ± SD) of the original breed from USA

Color	Number	Fineness (mm)	Length (cm)
White	100	1.42±0.17	2.10±0.10
California	50	1.42±0.15	2.07±0.10
Chinchilla	16	1.42±0.14	2.08±0.10

Reproductive performances of the original breed from USA.

Table 4 and 5 show that survival rate at weaning for the white, California and Chinchilla color types were 92.5%, 89.3% and 88.5% respectively; and the individual weaning weight were 748.5g, 673.1g and 580.5g. It suggests that the newly introduced American

Rex rabbit have a very good adaptability.

Table 4. Reproductive performances (mean ± SD) and survival rate of the original breed from USA

Color Type	Number of Does	Litter size at birth	Alive rabbit at birth	Number of suckling kids	Litter size at weaning	Survival rate at weaning (%)
White	19	6.63±1.42	6.58±1.46	6.26±0.93	5.79±1.03	92.5
California	8	8.25±1.71	8.25±1.71	7.00±0.71	6.25±0.83	89.3
Chinchilla	19	8.25±1.48	8.25±1.48	6.50±0.87	5.75±1.30	88.5

Table 5. Growth performances during lactation period of the original breed from USA

Color Type	Number of Litters	Litter weight (g) at birth	Litter weight (g) at the age of 21day	Weaning weight (42 day) (g)
White	40	335.8±67.4	1 485.8±248.7	748.5±150.3
California	30	396.3±69.5	1 280.0±246.8	673.1± 66.1
Chinchilla	10	387.5±73.9	1 125.0±387.5	580.5± 19.5

Growth rate of the offspring for the pure breed

The data in table 6 showed that individual weaning weight, body weight at 150day and the daily gain for the white, California and Chinchilla color types were 762.0g, 613.0g 560.0g; 2963.4g, 2939.3g, 2544.9g and 20.19g, 21.35g and 18.21g respectively.

Table 6. Body weight at 42-150 days of the second generation of the pure breed

Color Type	Number of Litters	Mean body weight (g)				
		42 days	60 days	90 days	120 days	150 days
White	40	762.8	1 051.5	1 898.4	2 598.6	2 963.4
California	30	613.0	1 013.2	2 136.8	2 684.9	2 939.3
Chinchilla	10	560.0	918.3	1 684.5	2 289.3	2 544.9

CONCLUSIONS

It is concluded that the new introduced American Rex rabbit showed a fairly good production performance and adaptability in China. The weaning survival rates for the white, California and Chinchilla color types were 92.5%, 89.3% and 88.5% and the individual weaning weight for the above mentioned three colors were 748.5g, 637.1g and 580.5g respectively.

It demonstrated that the offspring of the pure bred grew quite well as the weaning weight, body weight at 150d. and the daily gain for the white, California and Chinchilla were 762.8g, 613.0g 560.0g; 2963.4g, 2939.3g, 2544.9g; and 20.19g, 1.35g, 18.21g respectively.

As far as the hair coat is mentioned, the hair length for the original breed of the white, California and Chinchilla color types were 2.10cm, 2.07cm and 2.08cm, which are in the range as recorded in literature. While the minimum length of 1.6cm shows a tendency of increase.

As for the age of 150 day to skin off, it needs further study

REFERENCES

REN K. *et al*, 2002. Handbook of Modern Rex Rabbit Keeping, *Shanxi Science & Technology Publish House*, Taiyuan, China.