

Productive results of assay rabbit does with different live weight at first insemination



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Objective

Evaluate the relationship between body weight at first insemination and growth, feed intake, reproductive performance, and fertility rate of rabbit does.

Introduction

In modern commercial rabbit production, the limited reproductive longevity and many other problems of rabbit does are undesirable.

The young does are fed *ad libitum* during rearing. This procedure allow them to develop according to their growth potential. At first mating, rabbit does are inseminated at a fixed age with considerable differences in body weight.

The consequences of variation in body weight at first mating on reproductive performances are unknown.

Methods

Ninety rabbit does (New Zealand Wight x Californian) were fed *ad libitum* during the first reproductive cycle.

At 17 weeks of age the does were inseminated and split, according to their body weight, among three groups of 30 animals each: Heavy (H; 3900±97g), Medium (M; 3661±54g), and Light (L; 3554±98g).

At kindling litters were equalized in number and kits were weaned at 35 d of age. Does, kits and feed were weighed at the insemination, kindling, 18 d after kindling (LC) and weaning. The data from non-pregnant does were only considered for fertility rate.

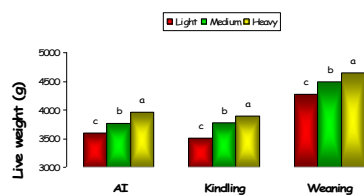


Figure 1. Body live weight (g) of rabbit does during assay

Table 1. Influence of live weight of rabbit does at first insemination on performances of rabbit does and kits

	Group			SEM	P value
	Light	Medium	Heavy		
Daily Weight Gain					
AI - Kindling	0.3	- 4.1	- 3.3	1.00	ns
Kindling - Weaning	10.4	9.2	9.8	1.34	ns
Feed Intake					
AI - Kindling	179.4	164.6	163.2	6.01	ns
Kindling - LC	313.0 b	343.2 a	340.0 a	5.32	0.02
LC - wean	517.1 b	575.5 a	572.2 a	12.47	0.03
Kindling - Weaning	421.1 b	466.2 a	462.9 a	8.73	0.02
Litter weight					
Kindling	490.8	517.1	489.4	13.98	ns
18 days after kindling	2008.2 b	2394.3 a	2370.1 a	61.00	0.01
Weaning	6677.2	7609.3	7459.2	193.65	0.10
Live weight of kits					
kindling	46.7	48.2	48.0	1.09	ns
LC	265.9	279.1	278.6	4.82	ns
Weaning	882.7	898.4	936.5	10.14	0.07
Litter size					
Kindling	9.7	10.0	9.8	0.33	ns

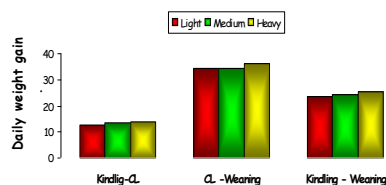


Figure 3. Influence of live weight at first insemination in daily weight gain of kits

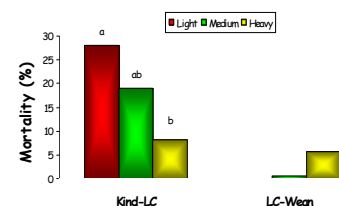


Figure 2. Kits mortality during the assay

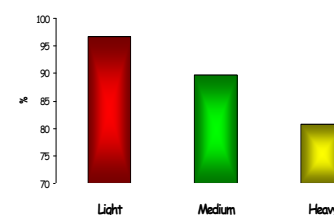


Figure 4. Fertility rate (n rabbit does kindling / n rabbit does at artificial insemination)

Results

The does body weight differed at insemination, kindling and weaning (Figure 1), but the daily weight gain between insemination and weaning was similar ($P>0.05$; 10g/day) among groups (Table 1).

In L group, the feed intake of does was lower, kits mortality (Figures 2) during the first 18 days of lactation was higher and the litter weight at weaning was lower (Table 1).

The litter size, the weight and daily weight gain of kits and litter were not affect by live weight of does at first insemination (Figure 3, Table 1). The L group had higher fertility rate than H group (96.7 vs. 80.7%) but these results were not statistically different ($P>0.05$) (Figure 4).

Conclusion

The results suggest that, under an intensive rearing system, the body weight of rabbit does at first insemination can have a positive effect on productivity, measured by growth and mortality of kits, but their fertility decrease.