Research on the Productive Performance of Young Rabbit Hybrid Bred in a Household System (II)

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Abstract

To ease the shock of weaning, the young hybrid rabbits were held between the ages of 30 days and 37 days in a farrowing cage and than they were transferred inside growing pens (148/123 cm), where they remained until slaughter. Before slaughter, youth has undergone a finishing process. Youth received treatment with vitamins, coccidiostatics and specific vaccinations. The finishing process began when youth Hybrid reached a body mass of 1700-1900 g and consisted of removal of the ration of grain and vitamins. Youth hybrid was slaughtered to a body weight of 2500 g, weight being achieved between the ages of 107-142 days. Youth consumed between 140.86 to 663.50 g / day juicy fodder, from 806.14 to 1225.82 g / day bulky and concentrated feed. Carcasses of youth hybrid weighed between 1596.70 to 1886.40 g. Slaughter yield ranged from 50.25 to 68.67%. The average price on carcass in young hybrid rabbits, calculated at a price of 17 lei/kg carcass, ranged from 27.10 to 33.40 lei / carcass.

Keywords: corporal indices, German Lop, rabbit.

1. Introduction

In any rabbit growing system, the whole activity should be directed towards improving attributes like: reproductive activity (manifested through increased pups parturition and their body mass) production results (assessed by daily gain and feed conversion) and carcass quality (assessed by weight of meat quality, organoleptic characteristics etc.) [1-3].

The existence in the same family holding of several family rabbit breeds creates the possibility of raising the rabbits in a reproductive isolation within the same species (in pure breed) or by breeding individuals of different races (hybridization or cross).

As from genetic standpoint, the crosses determine on the one hand an influx of genes and on the other hand the heterosis effect. The influx of genes is achieved by amelioration crossings (of absorption or infusion) and the heterosis effect in production crossings (first generation crossing, alternating and rotational). Production crossings practiced in household, are aimed at obtaining immediate economic effects by improving the combinative capacity within heterosis effect [4-8].

2. Materials and methods

Cubs were weaned at the age of 30 days. To alleviate the shock of weaning, youth were left in the birth cage until the 37th day, then transferred to growth pens where nests were kept together until slaughter without separating the sexes. Young rabbits were housed 6-8 individuals per pen (for 148/123 cm). The slaughter was carried out after a period of finishing. During the experiment, the young rabbits benefited from treatment with vitamins (multi-vitamins and vitamin K3), coccidiostats (Coccistops product) and vaccination (to prevent haemorrhagic disease and myxomatosis). The feed were given *ad*

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libitum in two portions per day (morning and evening).

3. Results and discussion

Youth development control body weight (Table. 1), began in the 30th day of weaning litter and was carried out every week.

Youth that came from New Zealand hybrid female and New Zealand Red male, on the 37th had an average body weight of 524.22 g and ended the day 86 at a body mass of 1974.54 g, finishing the day 121st with a body mass of 2950,67 g. Youth of the Californian hybrid female and New Zealand Red male, in day 37th the nest recorded an average body weight of 572 g and at 93rd day reached an average of 1982.50 g. Slaughter began after 107 days at an average body mass of 2481.50 g. The young nest derived from and couple Chinchilla hybrid female and German Lop male, in day 37th the nest had a mean body mass of 765.70 g and on day 79th reached an average body weight of 1936.29 g, then started finishing phase, which lasted until day 107th, when they finished growing and fattening period, reaching at 2761.57 g.

Young cubs derived from New Zealand hybrid female and New Zealand Red male, in day 37th, had an average body weight of 510.42 g and goes to the finishing phase on Day 93rd, at an average of 1843.83 g, and at the end of the growth and fattening period of the day 128th had an average body mass of 2448.33 g.

Nest produced by Californian hybrid female and New Zealand Red male, on 37th day, reached an average of 530 g. On day 114, it reached the finishing weight of 1988g. Slaughter was performed on day 142th, when youth has reached a body weight of 2792 g. Youth of the Big French Silver hybrid female and New Zealand male on day 37th, showed an average body weight of 575 g, managing to reach the finishing body weight on day 86th when they averaged 1835 g. It completed the 114 day growth with a mean body mass of 2515 g.

Nest of the Californian hybrid female and New Zealand Red male, on day 37th, had an average body weight of 479 g, managing to reach the finishing body weight on day 107th, with an average of 1961.25 g, reaching slaughter in Day 128th, with a body mass of 2502.5 g.

Youth Nest formed by the New Zealand hybrid female and New Zealand Red male, in day 37th had a body mass of 480.8 g, managing the day 93rd to reach 1812.43 g. At finishing stage of the youth nest in day 135th, the average body weight was 2619 g, and finishing was completed and slaughtering started.

Youth derived of the Californian hybrid female and New Zealand Red male, on day 37th nest recorded an average body mass of 1004.44 g, reaching finishing stage on day 79th, with a body mass of 1953 g, ending its finishing period in Day 114th, with an average gain of 2765 g.

Youth derived from the New Zealand Red female and Big French Silver male, on day 37th, had a mean body weight of 815 g, reaching the finishing period on day 79th with a body mass of 1904.5 g, ending the growth period on day 114th, when it reached an average body weight of 2729 g.

Nest youth from primiparous New Zealand Red hybrid female and Big French Silver male, on 37, showed an average of 1005.56 g body weight, body mass reaching finishing the day 79 with an average of 1946.57 g and finished the day finishing period 114, with a mean body mass of 2722.86 g. Youth hybrid produced in a household farm type was fed with juicy fodder (carrot, apple, cabbage, alfalfa) with bulky and concentrated feed (hay, grain, grains, middlings and dry bread).

After weaning at 30 days, the infant recipe remained the same until they have reached a body weight of 1700-1900 g, after which the period of finishing, consisting of decreased grain, vitamins and any other feed additive within the portion (Table. 2). Finishing period, ended with the slaughter of animals.

After weaning, the nest formed by the New Zealand hybrid females and New Zealand Red male, showed an overall average of 465.43 g succulent feed consumption, alfalfa is consumed with the greatest pleasure, to an average of 238.94 g/day. For the bulky and concentrated feed, there is an average total of 935.13 g/day, of which grains have the highest share recipes, from an average of 468.26 g, grits being administered to a mean body mass of 1316 67 g, which is reached by day 65th.

In the period after weaning of the nest formed by the Californian hybrid female and New Zealand Red male , juicy total average consumption was of 663.50 g/day, alfalfa is predominant, with an average of 390.04 g/day. Bulky and concentrated

feed, had average total 1077.95 g/day, medium grains are consumed in 588.19 g/day, concentrates, granulates with an average of 123.72 g/day. Middlings administered to an average weight of 1357 g nest in the 72 days.

Youth derived from the Chinchilla female hybrid and Big French Silver male had an average total of 574.39 g/day of succulent forage, alfalfa with a higher share of consumption at an average of 314.08 g/day. Bulky and concentrated feed, had a total average 806.14 g/day, which reached an average granule/day 112.90. Grits is being removed from the feed administered on day 58th when youth nest reached a mean body weight 1470 g.

Youth derived from the New Zealand hybrid female and New Zealand Red male, juicy fodder was consumed on average/day total volume of 495.97 g, alfalfa having the highest share in consumption of 217.17 g/day. Bulky and concentrated feed consumption, with an average daily total of 900.56 g, grains are consumed in the highest amount to an average daily of 520.20 g/day. Youth derived from the Californian hybrid female and New Zealand Red male and fed during the growing and finishing, had a juicy fodder consumption at an overall average 490.92 g/day, alfalfa is best consumed on an average day 217.17 g. bulky and concentrated feed consumption average daily total was 1102.74 g, grains having the largest share in the portion every day, at an average of 539.35 g/day, the granules being administered until finishing period at an average of 146.84 g/day. Young derived from Big French Silver female and Red New Zealand male, consumed a juicy fodder daily average total of 299.05 g, were administered only feed juicy type , carrots with a daily average of 143.97 g and cabbage 155.08 g/day. Bulky and concentrated feed, with an average total of 1225.82 g/day, the highest share having being for hay with 506.39 g/day and grains 582.03 g/day. Youth obtained from mating Californian hybrid female and New Zealand Red male, during the growing and finishing, had a total average juicy fodder consumption of 240.86 g/day, carrots 126.71 g/day and sprouts 114,19 g/day. Bulky and concentrated feed, with an average total consumption/day of 828.74 g of the hay consumed an average of 294.22 g/day, grains 395.53 g/day and granules until finishing phase, being recorded an average consumption of 138.99 g/day.

Yoth of the New Zealand hybrid female and New Zealand Red male achieved an overall average succulent feed/day of 288.08 g, carrots 163.88 g/day and sprouts 122.20 g/day. Bulky and concentrated feed had an average total of 1101.38 g/day grains have an average nest of 531.92 g/day, and the granules 154.20 g/day.

Youth derived from California hybrid female and New Zealand Red male, during the growing and finishing, had an average total of 287.09 g/day succulent feed, carrots averaged 154.81 g/day, an average for the cabbage of 132.28 g/day. Concentrate and bulky feed had a total of 1026.44 g on average, grain 458.03 g/day, hay 372.69 g/day, and the grains have an average consumption of 195.72 g/day.

Youth derived of New Zealand female with Big French Silver male, consumed juicy fodder per nest in a total average of 349.45 g/day, carrots 167.76 g/day and sprouts 181.69 g/day. Bulky and concentrated feed consumption in overall average is 1163.36 g/day, the average consumption of hay for youth nest is 435.87 g/day and grain of 458.03 g/day. Most of the rabbits will be grown for meat production. For this purpose, scarification is made for the youth specially raised and also the rabbits reformed from the reproduction.

Assessment of the live rabbits destined for slaughter is done in order to determine their quality and based on its purchase price. While evaluation of the quality of live rabbits is based on objective criteria, it has a high degree of subjectivity. Objective assessment of the quality of rabbits can be achieved only after slaughter, based on the slaughterhouse results based regarding the performance and carcass quality cut (Table. 3). Youth nest derived from the New Zealand hybrid female and New Zealand Red male-nest was littered on 07/03/2013 and slaughtered at 121 days on average. With an average body mass of 2963.56 g per nest and the average yield of 66.65% slaughter, we obtained an average price of 33.22 lei carcass. Young hybrid nest derived from the Californian hybrid female and New Zealand Red male, was slaughtered at 107 days on average with an average body mass per nest of 2558.50 g and an average percentage of carcass weight with head of 1596 70 g, nest having a slaughtered yield of 62.10%. The average price per carcass was 27.10 lei.

Youth hybrid obtained on 27/04/2013 from Chinchilla hybrid female and German Lop male

was slaughtered at 107 days with an average live body mass of 2761.57 g and an average of 1795.43 g carcass with head, the nest having an average slaughter yield of 64.86%. The average price per carcass was 30 lei. Youth Nest from New Zealand hybrid female and New Zealand Red male, was given birth at 06/05/2013. Youth was sacrificed on average at 128 days. The average of live body mass of 2631.08 g with an average weight of carcass with head of 1798.83 g, slaughter yield being 68.36%. The average price per carcass was 30.08 lei. Youth hybrid nest given birth on 20/06/2013 from Californian hybrid female and New Zealand Red male, were killed on average at 145 days. With an average body weight of 2794 g and slaughter yield of 67.51%, the average carcass weight per nest reached at 1886.4 g. Price per 1 kg of rabbit carcass being 17 lei, the average cost of a enclosures worth 33.40 lei.

Youth hybrid derived from Big French Silver female and New Zealand Red male was slaughtered at an average age of 114 days, with live body weight of 2576 g, slaughter yield of 68.67%, the average carcass weight was 1769 g. The average cost of a carcass is 31.40 lei. Youth nest derived from Californian hybrid female and New Zealand Red male farrowed on 06.20.2013,were slaughtered on average at 121 days, had a yield of 66.15% slaughter, average live body weight of 2651.67 g and media carcasses litter was 1754.33. The average value of carcass was 31 lei.

The young nest belonging to the New Zealand female and New Zealand Red male was given birth on 08/05/2013 and slaughtered on day 135. Nest had a mean body mass of 3316.43 g , the average mass of 1666.71 g and a housing slaughter yield of 50.25%. The average value of a carcass was 29.43 lei.

Youth Nest hybrid derived from Californian hybrid and New Zealand hybrid parents, given birth on 22/08/2013, was slaughtered beginning with day 121st. Youth, which reached an average of 2724 g live body, slaughter yield being 67.67% and 1843.5 g mass housing, carcass average of 31.34 lei worth.

Nest derived from New Zealand Red hybrid female and Big French Silver male, born on 05/08/2013 and slaughtered on day 121, had a live body weight of 2708.89 g, a mass of 1772.77 g and carcass yield slaughter of 65.44%. The average cost of a carcass was 31.33 lei.

Nest of primiparous New Zealand Red hybrid female and Big French Silver male born on 10/16/2013, was killed starting from the day 121. Nest reached a mean body live weight of 2777 g, with an average mass carcass with head of 1849.50 g and a yield of 66.38% slaughter. The average value of a carcass was 32.78 lei.

Table 1. The body weight of the young tamed rabbit hybrid from weaning to slaughter

A	B	C	D	E	F	G	H	I	J	K	L
Nest (cubs)	**9**	**8**	**10**	**12**	**7**	**7**	**7**	**10**	**9**	**12**	**10**
37	524	572	765	510	530	575	479	480	1004	815	1005
44	723	710	999	616	612	765	615	635	1207	1066	1125
51	841	887	1088	738	744	934	692	678	131	1261	1282
58	1067	1056	1470	965	854	1134	825	875	1419	1339	1408
65	1316	1229	1621	1136	862	1332	999	1095	1597	1537	1571
72	1677	1357	1722	1226	920	1474	1132	1233	1763	1705	1729
79	1798	1501	1936	1420	1141	1659	1295	1437	1953	1904	1946
86	1974	1794	2126	1628	1354	1835	1452	1707	2147	2125	2117
93	2142	1982	2359	1841	1505	2045	1615	1812	2324	2283	2283
100	2393	2235	2554	2057	1636	2196	1808	2011	2498	2469	2482
107	2568	2481	2761	2251	1815	2361	1961	2145	2558	2625	2616
114	2757			2346	1988	2514	2158	2285	2765	2729	2722
121	2950			2522	2254		2343	2417			
128				2448	2443		2502	2497			
135					2630			2619			
142					2792			2619			

The Age of the cubs from the rabbit nest=A; ♀ NZ hybrid x ♂NZ Red=B; ♀Californian hybrid x ♂ NZ Red=C; ♀Chinchilla hybrid x ♂ German lop=D; ♀NZ hybrid x ♂NZ Red=E; ♀Californian hybrid x ♂ NZ Red=F; ♀ Big French Silver x ♂NZ Red=G; ♀Californian hybrid x ♂ NZ Red=H; ♀ NZ hybrid x ♂NZ Red=I; ♀Californian hybrid x ♂ NZ Red=J; ♀ NZ hybrid x ♂ Big French Silver=K; ♀ NZ hybrid primiparous x ♂ Big French Silver=L.

Table 2. Feed consumption for Youth rabbits hybrids, raised in the household system

Mating	Succulent feed consumption (g/day)					Bulky and concentrated feed consumption (g/day)					
	1	2	3	4	Total	5	6	7	8	9	Total
♀ NZ hybrid x ♂ NZ Red	95	60	70	238	465	194	468	133	86	51	935
♀Californian hybrid x ♂ NZ Red	110	85	77	390	663	194	588	123	116	54	1077
♀Chinchilla hibrid x ♂ German lop	109	66	84	314	574	99	444	112	101	47	806
♀NZ hybrid x ♂NZ Red	114	81	82	217	495	117	520	127	87	47	900
♀Californian hybrid x ♂ NZ Red	93	88	96	212	490	345	539	146		70	1102
♀Big French Silver x ♂NZ Red	143		155		299	506	582	137			1225
♀Californian hybrid x ♂ NZ Red	126		114		240	294	395	138			828
♀ NZ hybrid x ♂ NZ Red	163		122		286	415	531	154			1101
♀Californian hybrid x ♂ NZ Red	154		132		287	372	458	195			1026
♀ NZ hybrid x ♂ Big French Silver	167		181		349	435	525	201			1163
♀ NZ hybrid primiparous x ♂Big French Silver	179		195		375	484	538	210			1184

Carrot=1; Apple=2; Cabbage=3; Alfalfa=4; Hay=5; Grains=6; Granules=7; Ground grains=8; Dry bread=9

Table 3. Results at the slaughter of young tame rabbit hybrid raised in the household system

Hybridization	Live body weight (g)	Weight of the casing together with head (g)	Slaughter yield (%)	Internal organs mass (g)	Weight of fur limbs from the knees and hocks down (g)	Average price per housing * (lei/carcass)
♀ NZ hibrid x ♂ NZ Red	2963	1975	66	524	461	33
♀Californian hybrid x ♂ NZ Red	2558	1596	62	465	500	27
♀Chinchilla hybrid x ♂ German Lop	2761	1791	64	542	440	30
♀NZ hybrid x ♂NZ Red	2631	1798	68	460	360	30
♀Californian hybrid x ♂ NZ Red	2794	1886	67	447	460	33
♀Big French Silver x ♂NZ Red	2576	1769	68	400	403	31
♀Californian hybrid x ♂ NZ Red	2651	1754	66	406	491	31
♀ NZ hybrid x ♂ NZ Red	3316	1666	50	398	537	29
♀Californian hybrid x ♂ NZ Red	2724	1843	67	490	390	31
♀ NZ hybrid x ♂ Big French Silver	2708	1772	65	415	523	31
♀ NZ hybrid primiparous x ♂ Big French Silver	2777	1843	66	398	527	32

**- selling price = 17 lei/kg carcass*

4. Conclusions

1. Weaned youth was fed a ration administered during the lactation period and reached a body weight of 1700-1900 g, after which the period of finishing was started, consisting of decreased grain and vitamins. Finishing period ended with the killing young rabbit.
2. Youth hybrid was slaughtered to a body weight of 2500 g, achieving this weight somewhere between the ages of 107-142 days.
3. During the young period, the average consumption of succulent forage was between 140.86 to 663.50 g/day, and the bulky and concentrated feed from 806.14 to 1225.82 g/day.
4. The young hybrids gave carcasses with a mean body mass from 1596.70 to 1886.40 g and a yield of between 50.25 to 68.67% slaughter.
5. The average price per carcass of youth rabbit hybrid, calculated at a price of 17 lei/kg carcass, ranged from 27.10 to 33.40 lei/carcass.

5. References

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