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SLAUGHTER VALUE DANISH WHITE AND CALIFORNIAN WHITE RABBITS AND THEIR CROSSES

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Introduction

One of the ways improving productivity of animals is interbreed mating. However, the investigations with rabbits shower no decided heterosis in that species. Kowalski et all /1985/ mating the main meat breeds of rabbits found no effect of crossing on lean characteristics. No significant heterosis effect was obtained by reciprocal crossing of New Zealand White rabbits with Danish White or Californian White rabbits /Bednarz and Frindt, 1976, Bednarz and Turlewska, 1977, Niedźwiadek and Kawińska, 1982/. A small improvement of lean characteristics was found in the crossbreds of medium meat rabbits with large meat rabbits /Kosko, 1979/.

The objective of this experiment was to determine the slaughter value of Danish White and Californian White rabbits vs. their crosses.

Materials and methods

The experimental material included Danish White /DW/ and Californian White /CW/ rabbits and their crossbreds /♂CW x

♀ DW/, 70 heads in each group. The animals were fad farm fodder ad libitum supplemented with mixture L.

At the age of 28 days rabbits were weaned, marked and weighed. Subsequent weights were taken at 60 days and before slaughter /90 days/. Slaughter was performed according to the method diseribed by Herman /1974/. Carcasses were weighed, cooled at 277 K for ca. 18 h and divided into the following parts: a/ fore i.e. between the last breast vertebra and the first loin vertebra; b/ rear, i.e. between the last loin vertebra and the first sacral vertebra; and c/ middle, i.e. delimited by the other parts. Carcass parts were dessicated and then tissue components were determined.

Killing out percentage was calculated according to the formulae described by Niedźwiadek /1983/.

Discussion of results

The body weight of the animals at 28 days of age ranged from 490 to 556 g. At that time, significantly heavier were Californian White rabbits; their weight approximated that obtained by Niedźwiadek /1983, 1985/. The value of that train in Danish White rabbits was somewhat lower and approximated that of the same breed rabbits obtained at weaning by Mach et all /1979/.

Examing the body weight of rabbits at 60 and 90 days of age showed that crossing had a significant effect growth rate of the animals. The crossbreds were significantly /at α = 0,01/ heavier thain pure-bred rabbits and before slaughter they attained the body weight amounting to ca 2 kg. This weight was, however, somewhat smaller than that of the rabbits of the same breed obtained by other workers /Bednarz and Frindt, 1976,

Bednarz and Turlewska, 1977, Kowalski et all, 1985/. This was probably due to feeding factor, mainly farm fodder which was supplemented with mixture L only.

The crossbreds obtained were found to excel the pure Danish and Californian rabbits in carcass weight /1170 g vs. 1080 g and 1030 g, Table 1/. The carcass weight of pure breeds was similar to that obtained by Bednarz and Frindt /1976/ and Niedźwiadek et all /1985/ and the carcass weight of the crossbreds approximated that obtained from other matings /Kowalski et all, 1985, Mach nad Trojan, 1979, Mach et all, 1979/.

The killing out percentage of the animals amounted to 56 to 58% /Table 1/ and was in the range of standards required for meat rabbits /Schlolant, 1977/.

The highest proportion of lean /80%/ was found in the carcasses of Danish White rabbits /Table 2/. This was reflected in higher lean contents in the Danish crossbreds /78%/ than in the Californian crossbreds /76%/. The meatiness of the rabbits in this study did not differ from that found by Bednarz and Turlewska /1977/, however, the results obtained by others /Niedźwiadek, 1983, 1985/ indicate that both Californian White and Danish White rabbits may be more muscled.

The bone weight of rabbit carcasses of all groups was alike and averaged 17% /Table 2/. The fatness of carcasses appeared small /0,62 to 2,21%/ which is important, especialy when young rabbit carcasses are appropriated for export.

The crossbreds were characterized by well muscled middle and rear parts of the body /Table 2/. The proportion of lean in these parts ranged 70%. The weight of cuts and lean proportion in them found in pure-bred rabbits were somewhat smaller than in the crossbreds and aproximated those reported by other

workers /Bednarz and Turlewska, 1977, Niedźwiadek et all, 1985/.

Summing up, it may be concluded that mating Californian White male rabbits to Danish White female rabbits results in the crossbreds that are characterized by higher growth rate and carcass weight and are more muscled than Californian White rabbits.

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Table 1

Body and carcass weight /g/ and killing out percentage of rabbits

Specification	Californian White rabbits		Danish White rabbits		Californian x Danish	
	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s
Live weight at /days/:						
28	556^{aA}	94,74	515^{b}	73,45	490^{B}	98,51
60	1187^{A}	154,25	1154^{A}	179,23	1326^{B}	171,24
90	1793^{aA}	208,22	1875^{bA}	164,22	2000^{B}	201,85
Carcass weight /g/	992^{A}	133,24	994^{A}	95,01	1088^{B}	131,87
Carcass weight with giblets /g/	1030^{A}	136,66	1080^{A}	99,99	1170^{B}	139,00
Killing out percentage /%/	58,41	17,24	56,77	16,03	58,36	19,15

Values in followed by different letters are significantly different: small letters $P \alpha$ 0,05

capitale $P \alpha$ 0,01

Table 2

Tissue composition of rabbit carcasses

Specification		Californian White rabbits		Danish White rabbits		Californian x Danish	
		$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s
Carcass components:							
lean	g	641^{A}	102,41	674^{A}	73,38	706^{B}	98,14
	%	76,19	1,64	80,91	1,49	78,14	1,96
bones	g	146^{A}	17,87	143^{A}	14,30	157^{B}	16,76
	%	17,76	1,55	17,22	1,51	17,53	1,73
fat	g	18^{A}	9,63	5^{B}	3,53	10^{C}	5,25
	%	2,21	1,05	0,62	0,38	1,17	0,51
Weight:							
fore part		305^{A}	43,98	314^{A}	32,26	334^{B}	43,04
lean in fore part		216^{A}	35,24	234^{B}	30,02	234^{B}	34,26
middle part		180^{A}	28,76	180^{A}	22,21	197^{B}	29,55
lean in middle part		154^{A}	26,40	158^{A}	20,51	172^{B}	27,78
rear part		342^{A}	33,26	339^{A}	32,41	371^{B}	36,80
lean in rear part		269^{A}	25,01	280^{A}	28,57	300^{B}	20,24

Values in followed by different letters are significantly different: small letters $P \leq 0,05$

capitale $P \leq 0,01$

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Summary

The performance of the Californian White and Danish White rabbits and of their crosses was studied. Seventy individuals of each of the breeds and crosses were analysed for body weight at 28; 60; and 90 days of age and for carcass dressing.

The body weight at 28 days was highest in Californian rabbits /556 g/, lower in Danish White rabbits /516 g/ and lowest in the crosses /490 g/. At 60 and 90 days of age the crosses appeared much heavier than the rabbits of pure breeds. The carcass weights were 1170; 1080; and 1030 g in the groups of crosses, Danish White, and Californian White rabbits, respectively. The proportion of meat in carcasses was amounted to ca. 80%. The proportion of meat in promal cuts /loins, legs/ was highest in the crosses.

VERGLEICH DES SCHLACHTWERTES DER WEISSEN KALIFORNISCHEN WEISSEN DÄNISCHEN KANINCHEN UND DEREN HYBRIDEN

Zusammenfassung

Untersuchungsmaterial waren Weisse Kalifornischen, Weissen Dänischen Kaninchen sowie deren Hybride. In jeder Gruppe befanden sich 70 Stück. Es wurden die Körpermasse im Alter 28, 60 und 90 Tage und Schlachtausbeute der Kaninchen analisiert.

Die höchste Körpermasse im Alter 28 Tage erreichten die Kalifornischen Kaninchen. Sie betrung 556 g. Die Weissen Dänischen erreichten 516 g. Die niedrigste Körpermasse erwiesen die Hybridkaninchen - 490 g. Im Alter 60 und 90 Tage höchste Körpermasse erreichten die Hybridkeninchen. Der Schlachtkörper der Hybriden erreichte 1170 g, der Weissen Dänischen 1080 g und 1030 g in der Gruppe der Weissen Kalifornischen. Der prozentualle Fleischanteil im Schlachtkörper der analisierten Gruppen betrug ca. 80%. Fleischanteil in den vertvollen Teilen /Lendenteil, Gebeine/ erreichte den höchsten Wert bei den Hybriden.