

RESEARCHES ON PARAMETERS OF GROWTH FOR MANGALITA RACE EXPLOITED IN DIFFERENT BREEDING SYSTEMS

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Abstract

Through this paper, we proposed to establish the breeding performances of Mangalita races, red variety exploited in different conditions, namely intensive system and traditional system. For each growth system was created a batch of 20 individuals, male castrated and female, fully respecting the protocol of growth from each farm. Individuals from both batches were followed from weaning and up to the weight of 100 kg. Data on body weight, indicating more rapid achievement of 100 kg by weight Mangalita pigs reared in intensive system than those grown in traditional system about 2 months. Values recorded for average daily gains in the two batches shows a superiority for pigs reared in intensive system (258 g) than in traditional system (295g) of about 37g (13%). Consumer index recorded throughout the experimental period was 5.20 kg for pigs reared in intensive systems and 6.4 kg for pigs reared in the traditional system. The results indicate that, between the two breeding systems, best results were obtained in intensive systems, which proves that to Mangalita race may apply intensive system leading to shorter growing period, respectively an index of lower consumption. To characterize more exactly the two systems will be achieved growth and meat quality analysis to see any differences.

Key words: pigs, Mangalita, body weight, feed consumption

INTRODUCTION

Mangalita is typical fat pig breed, it has in carcass sides 65-70% of fat and approx. 30-35% meat [1, 2]. Slightly lower values for average content of fat and muscle tissue with bones were established by many authors [4, 5]. Results of the investigation in recent years [8, 9, 10] show that there is less than 40% of lean meat in carcass sides but sufficient for production of high quality and valuable ham. Through this paper, we proposed to establish the breeding performances of Mangalita races, red variety exploited in different conditions, namely intensive system and traditional system.

MATERIAL AND METHODS

According to set goal, for each growth system was created a batch of 20 individuals, male castrated and female, fully respecting the protocol of growth from each farm.

Individuals from both batches were followed from weaning and up to the weight of 100 kg.

In extensive systems, pigs were maintained throughout the growing batch of 20 individuals in the paddock area of approximately 200 m².

The intensive system pigs were kept in batches of 20 individuals, with an area from 0.35 to 0.8 m²/animal.

Pigs in both batches were followed from weaning and up to the weight of 100 kg. Feeding was done ad libitum, in both systems increased over the period.

Animals were weighed at weaning (30 days), 100 days and 365 days. Recorded data were analyzed and processed using Fisher's test.

The working method included the batches of animals. The experimental conditions were those commonly applied by the production technology in the unit, the technological flow being undisturbed.

RESULTS AND DISCUSSIONS

Dynamics of body weight

As a general reference on the evolution of body weight of the pigs in experimental

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batches can be argued that the issues close to those recorded in literature (table 1).
 resulting from experimental research are

Table 1 Average body weight at Mangalita breeds

Batch	Average body weight at weaned (kg -30 days)	The average weight out of the nursery (kg - 100 days)	Average weight end of fattening (kg - 365 days)
Batch L1 Intensive breeding	6.85	24.14	106.4
	Limits 5.10 - 7.40	Limits 21.26 – 27.26	Limits 92.25 – 114.50
Batch L2 Traditional breeding	6.10	21.60	90.14
	Limits 4.90 - 7.25	Limits 19.3 – 25.40	Limits 77.8 – 98.70
Fisher test	s	d.s.	d.s.

Analyzing the data presented in table 1 it could be observed that during experiment piglets' weight in both batches was close, differences not exceeding 740 g/batches at the end of the experiment there have been differences of 21 kg weight batches.

An analysis of the data presented in table 1 shall certify the results of positive batch L1 to the batch L2 regardless of the age at which the determination of body weight.

At weaning (30 days), the 20 pigs of batch L1 recording an average weight of 6.85 kg (100%) the piglets in L2 batch recorded an average weight of 6.1 kilograms (89.05%), meaning a difference of 11 %.

At the age of 100 days of pigs' differences between batches is widening. Thus at the individuals from batch L1 the average body weight was 28.14 kilograms (100%) compared with that of L2 batch of 22.6 kilograms (80.31%).

Average weight of end of fattening (365 days) was to batch L1 of 106.4 kilograms

(100%) and those of L2 batch weighted was 85.14 kilograms (80.01%) the difference between batches was 20%.

Between experimental batches were statistically significant differences, recorded in the first periods of control and statistically distinct significant differences in the last two periods.

Evolution of body weight from the two batches was in concordance with the data presented in literature [1, 3, 6, 7, 10].

Results concerning average daily gain (A.V.G.)

The average daily weight gain was observed during distinct periods, from weaned until slaughter, the results showing ascendant trend of this indicator, irrespective of the experimental batch or related to the rearing periods. Throughout the experimental period, average daily gain was different periods and experimental batches (table 2).

Table 2 Results on average daily gain during growing and fattening periods

Batch	Average daily gain achieved during the nursery (30 -100 days) (g)	Average daily gain achieved during the growing fattening (100 -365 days) (g)
Batch L1 Intensive breeding	247	295
	Limits 230 - 283	Limits 267 - 329
Batch L2 Traditional breeding	221	258
	Limits 205 - 259	Limits 220 - 276
Fisher test	d.s.	d.s.

From the data presented in table 2 following aspects could be drawn:

- In the age of 30-100 days, the highest average daily gain was observed in the descendants of L1 batch (intensive breeding – 247 g), the difference from batch L2 (traditional breeding - 221 g) being of + 9.53% (26 g);
- Between 100-365 days of age, the average daily gain was the same, the difference being of 37 g in favour of batch L1.

Statistical differences had distinct significant degree throughout the growth and fattening periods.

Analyzing the values presented in table 2 could be considered that they fit to the data presented in the literature on Mangalita breeds [6, 7, 10, 11].

Results concerning feed conversion

The correlation between growing aped and feed conversion it is well known, considering that in animals with high growth rate, the feed intake is lower. In order to provide better conditions to the progeny, to be able to achieve their genetic potential, their feeding has been done in accordance with the Mangalita breeds recommendations for growing and fattening periods.

Throughout the rearing and fattening, feeding was done ad libitum, feeding stuffs being used as flour.

Table 3 are shown the quantities of feed consumed by the two batches and the specific made during growth and fattening.

Table 3 Average feed consumption and ratio conversion to the Mangalita breeds

Batch	Specification	Mangalita breeds	
		Nursery period (30 -100 days)	Growth fattening period (100 -365 days)
Batch L1 Intensive breeding	Fodder (kg /day))	50	436.0
	Weight gain (kg)	17.29	82.26
	F.C.R.(kg)	2.89	5.30
Batch L2 Traditional breeding	Fodder (kg /day))	48	425.0
	Weight gain (kg)	15.5	68.54
	F.C.R.(kg)	3.09	6.20

Analyzing the data recorded in table 3 we can conclude that, during the entire experimental period, the L2 batch (traditional breeding) had the lowest amount of feed consumed (425 kg) compared with the L1 batch (intensive breeding) that recorded 436 kilograms of feed consumption.

Concerning the feed conversion rate, L1 batch having a conversion of 5.30 kg/kg gain and L2 batch a consumption of 6.20 kg/kg growth.

Data obtained by both batches are in accordance with the literature [1, 6, 7].

CONCLUSIONS

1. Values on body weight, achieved by both piglets batches indicate a difference between the both L1 and both L2 meaning around 15% throughout the period being meanwhile in accordance with the data presented by literature.

2. Results concerning the average daily gain also indicate better performances in both L1 (295 g) progeny, compared to the both L2 (258 g), issuing a difference of around 37 g (13%).

3. The feed conversion ratio, reached 5.30 kg in batch L1 and 6.20 kg in batch L2 values in accordance with literature specifications.

4. To characterize more exactly the two systems will be achieved growth and meat quality analysis to see any differences.

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