



21-22 November, 2024

STUDY ON GROWTH PERFORMANCE OF ABERDEEN ANGUS AND HYBRID CALVES IN COMMERCIAL FARMS

Brian-Adrian Ramocea, Gabriela-Bianca Mic (Chesințan), Iosif-Adrian Ban,
Mircea-Nicolae Rațiu, Silvia Elena Erina, Simona Baul, Ludovic Toma Czisster
*University of Life Sciences "King Mihai I" from Timișoara, Faculty of Bioengineering of Animal Resources,
Calea Aradului 119, 300645, Timișoara, Romania*

Abstract: Ability of Aberdeen Angus cattle (AA) to perform in various farm conditions could be measured by the growth performance of young stock as well as age and weight of calves when they leave the farm. The aim of the study was to study the growth performance of AA purebred and hybrid calves in commercial farms in Bihor and Mehedinți counties, Romania. Data for 94 calves was collected from the official performance control and consisted on the birth and selling liveweight, total gain and average daily gain of calves, as well as the age cattle were sold from the commercial farm. The following factors were taken into account: calf sex (male and female), county (Bihor and Mehedinți), and genotype (AA purebreds and hybrids). Factorial ANOVA model was used in STATISTICA software. Neither factor had a significant effect ($p>0.05$) on studied traits, although some differences were observed. Probably the variability was very high due to a low number of individuals. For instance, the birth weight in male calves was higher than in female calves (30.5 ± 0.85 vs. 28.2 ± 0.61 kg), but at the time of selling females were heavier than males (295.0 ± 22.57 vs. 284.0 ± 15.38 kg), due to a higher average daily gain (865.1 ± 44.20 vs. 791.3 ± 33.96 g). Calves from Mehedinți County were sold 32.4 days later from the farm (316.7 ± 21.78), were 2.1 kg heavier at birth and 15.3 kg at the time they left the farm, but the average daily gain was 35.2 g lower than those from Bihor County (28.3 ± 0.60 kg, 285.7 ± 22.34 kg, and 849.6 ± 44.29 g, respectively). AA hybrid calves left the commercial farms 45.3 days earlier than AA purebred calves (298.8 ± 24.20 vs. 344.1 ± 20.56 days). With a similar birth weight, AA purebred calves were 43.4 kg heavier at selling time from the farm, having a 32.5 g higher average daily gain than AA hybrids (263.2 ± 18.83 kg and 816.9 ± 33.14 g, respectively). In conclusion, we could not find significant differences of calf sex, county and genotype on the age at selling, birth and selling live weight and average daily gain, mainly due the reduced number of individuals. More research is needed in this respect.

• Material and method

The aim of the study was to study the growth performance of AA purebred and hybrid calves in commercial farms in Bihor and Mehedinți counties, Romania.

Data

- 94 registered AA purebred and hybrid calves
- Official performance control
- Birth and selling liveweight, total gain and average daily gain, and age at selling from the farm

Studied traits

- Calf gender (male and female)
- County of the farm (Bihor and Mehedinți)
- Genotype (AA purebreds and hybrids)

Model: factorial ANOVA in STATISTICA software

• Results and discussions

Influence of calf gender

	Females	Males	Difference	Statistical significance
Age at selling (days)	324.5 ± 22.77	333.1 ± 18.84	-8.6	$p<0.05$
Birth weight (kg)	28.2 ± 0.61	30.5 ± 0.85	-2.3	$p<0.05$
Selling weight (kg)	295.0 ± 22.57	284.0 ± 15.38	11.0	$p<0.05$
Total gain(kg)	266.8 ± 22.41	253.5 ± 15.33	14.3	$p<0.05$
Average daily gain (g)	865.1 ± 44.20	791.3 ± 33.96	73.8	$p<0.05$

Influence of county

	Bihor	Mehedinți	Difference	Statistical significance
Age at selling (days)	316.7 ± 21.78	349.1 ± 19.61	-32.4	$p<0.05$
Birth weight (kg)	28.3 ± 0.60	30.4 ± 0.91	-2.1	$p<0.05$
Selling weight (kg)	285.7 ± 22.34	301.0 ± 11.64	-15.3	$p<0.05$
Total gain(kg)	257.4 ± 22.21	270.5 ± 11.53	-13.1	$p<0.05$
Average daily gain (g)	849.6 ± 44.29	814.4 ± 27.18	35.2	$p<0.05$

Influence of calf genotype

	AA purebreds	AA hybrids	Difference	Statistical significance
Age at selling (days)	344.1 ± 20.56	298.8 ± 24.20	45.3	$p<0.05$
Birth weight (kg)	28.7 ± 0.59	29.6 ± 0.95	-0.9	$p<0.05$
Selling weight (kg)	306.6 ± 21.18	263.2 ± 18.83	43.4	$p<0.05$
Total gain(kg)	277.9 ± 21.14	233.6 ± 18.3	44.3	$p<0.05$
Average daily gain (g)	849.4 ± 44.22	816.9 ± 33.14	32.5	$p<0.05$

- Males were heavier at birth, but females had a higher growth rate resulted in higher liveweight at selling from the farm.
- Calves from Mehedinți County were sold a month later from the farm, were heavier by 15.3 kg at selling, although they had a lower growth rate compared to calves from Bihor County.
- AA purebred calves were sold 45 days later from the farm, with a higher live weight, having a higher growth rate compared to AA hybrid calves.

• Conclusions

- ✓ No significant effect ($p>0.05$) of calf gender, county and genotype was found on growth indices, mainly de a reduced number of individuals
- ✓ More research is needed in this respect