



UNIVERSITY OF LIFE SCIENCES "KING MIHAI I" FROM
TIMISOARA
"YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH
IN APPLIED LIFE SCIENCES"



"Young people and multidisciplinary
research in applied life sciences"

16-17 November, 2023

STUDY ON THE TECHNIQUES USED IN THE SELECTION OF ABERDEEN ANGUS BREEDING BULLS AT NATIONAL LEVEL

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Abstract

In recent years, the beef cattle sector has registered a favorable upward trend on national level, with the entry of our country into the European Union. This growth was influenced by a number of favorable factors such as: the lack of labor force, european and national subsidies, cereal productive potential, the share of natural pasture areas, the price of meat and live animals, the transition of consumers to meat wick is obtained in growing conditions of semi-extensive and extensive systems. Aberdeen Angus breed has the largest share of the total beef cattle population on national level. Romanian Aberdeen Angus Association is the non-governmental entity, whose purposes are the monitoring of the quantitative and qualitative evolution of the breed, as well as managing the heerdbook. Considering the major importance of the bulls in the manifestation of the selection pressure in a breeding program into a population, it is unanimously necessary to monitor and select all the bulls, before their use in breeding or artificial insemination. This paperwork will study the techniques used for the selction of breeding bulls (pedigree, performances and estimating breeding values of the ancestors, own performances and estimating breeding values, structural soundness, body condition score, body measurements, DNA profile or parentage, individualization) from Aberdeen Angus population and their current situation on national level.

Keywords: Aberdeen Angus, breeding bull, selection, bull evaluation, estimating breeding value.

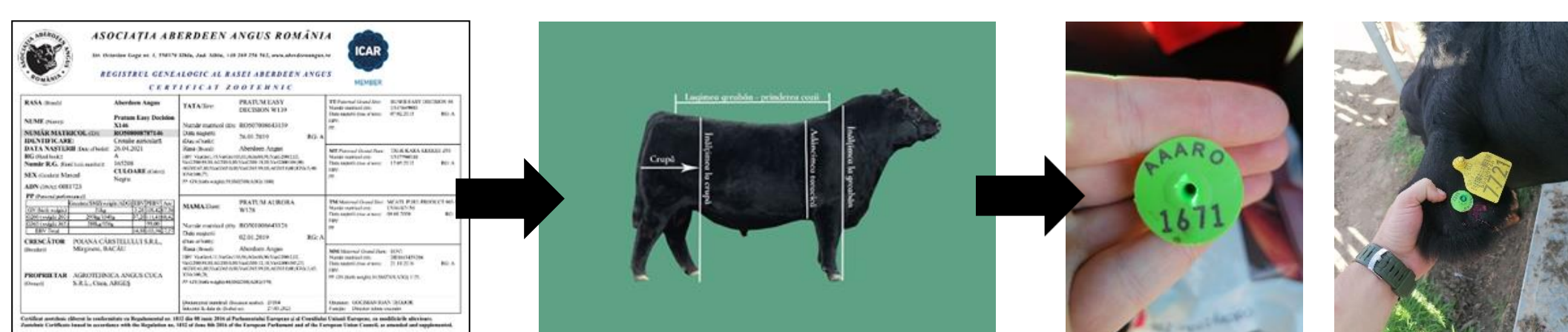
• Introduction

In the last 26 years, the specialized beef catte sector in Romania has experienced a fulminant evolution, favored primarily by Romania's entry into the European community as well as by a number of internal national factors (Gociman et al., 2020). The breed of Scottish origin Aberdeen Angus currently holds the largest share of the total beef cattle population, and has the ability to become the cattle breed with the largest national coverage in the coming years. Quantitative and qualitative evolution, monitoring of performance and promotion of the breed at internal and external level is carried out by the Aberdeen Angus Association Romania, which coordinates both the activity of official control of performances, the heerd book, the selection of bull mother cows and breeding bulls, the purchase of animals for meat and reproduction, as well as the promotion of the breed in the community market (Grosu et al., 2018). By implementing specific tools such as: official performance control, heerd book, DNA testing, bull evaluation and individualization, the association wants to apply the most rigorous selection in the population for the promotion and breeding of animals with the highest genetic potential and phenotypically (Manea et al., 2022). As the expression of the genetic and phenotypic baggage of a breeding bull can be seen on a larger number of individuals, the selection pressure is automatically exponentially influenced by the bull and not the dam (Ivancia, 2007). That is why breeding bulls must be carried out by observing selection techniques that follow specific aspects regarding: the pedigree, the performances EBVs of the ancestors, own performances and EBVs, bull evaluation, body measurements, DNA profile or parentage, individualization.

• Material and method

In order to develop the basic structure of the program and subsequently its continuous improvement, it was used to collect information from the following sources:

- PEDIGREE;
- PERFORMANCES and EBVs;
- BULL EVALUATION;
- BODY MEASUREMENTS;
- DNA;
- INDIVIDUALIZATION.



• Conclusions

- There is no one-size-fits-all solution or a bull that is best for all scenarios, as the right genetics depend on the individual operation. There are many different types of bulls available, and effective sire selection requires an understanding of the characteristics of the available genetics as well as your own operation. Deliberate alignment of the bull's genetics to your operational goals will contribute to enhanced revenue and reduced costs.

Acknowledgement:

This research work was carried out with the support of Romanian Aberdeen Angus Association, BFS SRL, INCDBNA-IBNA (National Institute Research and Development for Animal Biology and Nutrition) and the Faculty of Food and Animal Sciences, University of Life Sciences "Ion Ionescu de la Brad" of Iaşi.

• Results and discussions

Considering that it is not an aboriginal breed, the basis of the development at the national level was achieved by the infusion of breeding bulls imported from various european states both in the form of bulls and in the form of semen. The main imports of breeding bulls took place from countries such as: Germany, Austria, Great Britain, Denmark, Hungary, Czech Republic, Ireland. The expression of the achieved results were expressed in the total number of bulls according to origin, average of bulls evaluation, average of measurable values, average of DNA analysis.

At the present time at the national level according to the data provided by the Aberdeen Angus Association Romania, a total of 2281 breeding bulls are registered, of which 1851 are calved in Romania and the remaining 430 are imported bulls. Practically, a share of 81.15% is represented by local breeding bulls, and the remaining 18.85% are imported, with the highest share of bulls from Germany (DE) at around 14.20%.

Due to the genetic variety present, body measurements were taken for the further establishment of the breed standard at the national level in a maximum period of 10 years. Thus, the average of the measurable values records the following values: height at the withers – 141 cm; height at the rump – 142 cm; chest depth – 96 cm; length withers-tail grip – 146 cm; scrotal circumference – 39 cm. Also in the bull evaluation - grading of breeders, an overall average grade of 7 was recorded, with a total of 3 bulls graded with the maximum grade (9), all three born in Romania, and 263 graded with 8 (www.bidaa.ro).

COUNTRY CODE	COUNTRY	TOTAL NUMBER	PERCENTAGE
RO	Romania	1851	81.15
DE	Germany	324	14.20
AT	Austria	11	0.48
UK	United Kingdom	35	1.53
DK	Denmark	22	0.96
HU	Hunary	15	0.66
CZ	Czech	11	0.48
IE	Irland	12	0.53

Total number of bulls expressed according to the source of provenance

COUNTRY CODE	COUNTRY	BULL EVALUATION	Ī.G.	I.C.	A.T.	L.G.C.	C.S.
RO	Romania	6	135	136	90	136	38
DE	Germany	7	141	142	95	144	40
AT	Austria	6	140	140	83	148	39
UK	United Kingdom	7	145	144	107	153	42
DK	Denmark	6	142	143	88	144	38
HU	Hunary	7	142	141	103	155	41
CZ	Czech	7	145	148	95	145	36
IE	Irland	6	144	144	106	143	39

The average of the bull evaluation (notes) and the measurable values average (cm)

Distributor	County	Name	Origin country	ID	Birth date	Color
SEMTEST BVN	MS	CENTR PP	Czech	CZ948490031	18.03.2016	Black
SEMTEST BVN	MS	BOSTON RED PP	Czech	CZ937962031	14.05.2015	Red
TCE BOVISELECT	NT	BUNLAHY JOHN G	Ireland	IE251261710285	06.10.2012	Black
TCE BOVISELECT	NT	ELVIS	Czech	CZ845589053	30.12.2018	Black
TCE BOVISELECT	NT	PRATUM W148	Romania	RO509008543148	15.02.2019	Black
TCE BOVISELECT	NT	STONEBURNER W149	Romania	RO506008643149	16.02.2019	Black
TCE BOVISELECT	NT	LAVALLY PRINCE	Ireland	IE214344070354	06.03.2017	Black
TCE BOVISELECT	NT	DIPLOMAT RED	Czech	CZ998844031	15.03.2017	Red
SEMTEST CRAIOVA	DJ	BRENT	Czech	CZ579386041	03.03.2015	Red
SEMTEST CRAIOVA	DJ	CANDY	Czech	CZ768473053	02.05.2016	Black
SEMTEST CRAIOVA	DJ	DIXI	Czech	CZ662038072	20.03.2017	Black
SEMTEST CRAIOVA	DJ	DONAUMOOS PERCY V156	Germany	DE0988983156	12.12.2019	Black

Romanian leading Aberdeen Angus semen producers