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Survey on swine reproduction data recorded in Romania

Claudia T. Socol, Cristinel G. Șonea

National Agency for Animal Husbandry „Prof. dr. G. K. Constantinescu", Romania.
Corresponding author: C. T. Socol, clausocol@yahoo.com

Abstract. This paper provides a brief overview on the swine reproduction status in Romania aiming to point out the actual situation through the data recorded at national level. The organisms for founding and management of the genealogical and zootechnical registers in swine breeds and hybrids, the national centers for semen collection, processing and storage in swine, as well as the status of the swine reproduction livestock are presented in the present study.
Key Words: swine reproduction, artificial insemination, authorized boars, pure breed, hybrid.

Rezumat. Această lucrare reprezintă o scurtă trecere în revistă a statusului reproducției la specia suină în Romania, cu scopul de a evidenția situația actuală prin intermediul datelor înregistrate la nivel național. Organimele pentru înființarea și conducerea registrelor genealogice și zootehnice pentru rasă curată și hibrizii de suine, centrele existente la nivel national pentru colectarea, prelucrarea și depozitarea materialului seminal suin, alături de statusul efectivelor de reproducători sunt redate în lucrarea de față.
Key Words: reproducția la suine, însămânțare artificială, vieri autorizați, rasă pură, hibrid.

Introduction. Swine have been introduced in many places throughout the world and in many places this fact is not having only an economic impact on agriculture, but also on the environment. Pork is one of the world's most widely consumed meat, compromising 40% of the total meat consumed (Ramirez 2011). The consumption of the pork meat in Romania is ranked on the first place, mainly due to the tradition as well as the importance of swine in Romanian's economy (Alexandri et al 2006; Moldovan 2010; Popescu 2012). Recently also local rustic breeds like Mangalitsa standing out with his niche market (organic) potential, which actually shows a growing trend (Botha et al 2014; Oroian & Petrescu-Mag 2014). Identifying, monitoring and documenting the swine population abundance, the spatial distribution as well as the main reproducers location represent an utmost for the swine industry and for the implementation of economically feasible reproductive strategies. Due to the small farms size (in average 3.6 pigs for 84% of the farms) (Turek et al 2009; Popescu 2010) representing the majority, Romania is facing many challenges in counteracting the unbalanced offer/demand ratio and in increasing the national swine livestock related high quality breeds. For such reasons the identification/dissemination of the swine pure breed and hybrids livestock of the control organizations accredited for the management of the genealogical and zootechnical registers, as well as the number and the county distribution of the authorized boar reproducers referred into the national register of the centers for semen collections, processing and storage in swine are representing key factors for the implementation of suitable reproduction programmes.

Material and Method. The paper is a survey which documents the authorized organisms available for swine pure breeding and reproduction in Romania, showing a part of the swine reproduction status throughout the data analyzed. The organisms for founding and management of the genealogical and zootechnical registers in swine breeds and hybrids,

the national centers for semen collection, processing and storage in swine, as well as the status of the swine reproduction livestock were overviewed.

Results and Discussion. The controlled reproduction and the official control of the zootechnical performances activities in farm animals are basic elements in animal husbandry. In swine the official control of the zootechnical performances is carried out in swine pure breed and hybrid reproduction farms. These activities are carried out through specialized organizations authorized and accredited. The National Agency for Animal Husbandry „Prof. dr. G. K. Constantinescu" is the main authority of the Ministry of Agriculture and Rural Development enrolled in farm animal reproduction.

According to the National Agency for Animal Husbandry „Prof. dr. G. K. Constantinescu" (data for the third semester of 2015), a number of 6 farms for pure breeding and 31 for hybrids are listed in swine as accredited control organizations for the management of the genealogical and zootechnical registers, accounting for a number of 1856 pure breed and 23,301 hybrids livestock. The pure breeds referred to are the Large White, Ladrace, Duroc and Pietrain. The swine pure breed and hybrids livestock at county level available in Romania of the control organizations accredited for the management of the genealogical and zootechnical registers are showed in Table 1 and Table 2.

Table 1

The swine pure breed livestock at county level available at the 6th control organizations accredited for the management of the genealogical registers

County	*Pure breed*	*Total pure breed livestock (no. of individuals)*
Argeş	Large White	195
	Landrace	171
	Duroc	35
Calarasi	Large White	211
	Pietrain	10
Ialomita	Large White	75
Neamt	Large White	206
	Landrace	80
	Pietrain	78
Sibiu	Landrace	105
	Pietrain	67
	Large White	102
Timiş	Landrace	521
	Large White	725
Total		1856

In Romania, mostly, the authorized centers for semen collection, processing and storage in swine are private companies specialized in pigs breeding, owing high value reproduction boars. A small number of pig farmers can be taken into account, too (Socol et al 2015; Rusu 2011).

According to the data recorded into the report of the National Agency of Animal Husbandry „Prof. dr. G. K. Constantinescu" for the year 2014, a number of 866 boars were authorized for artificial insemination. The related documents for the authorization are mainly referring to the origin and production certificates and the analysis bulletins for the bacteriological and micotic exams, and also spermiograms. Also, 7 centers for boar semen collection, processing and storage were authorized in 2014 (ANZ 2015).

The swine reproducers successful tested in pure breed accounted for 679 in males, meanwhile 8197 in females, both referred for the accredited units for the official control of performances.

According to the female farm animal livestock data on catagraphy registered in 2014 by the Reproduction Department of The Romanian National Agency for Animal

Husbandry “Prof. dr. G. K. Constantinescu” 339636 individuals account for pig. Referring to the similar data registered in 2013, a decline of 1,226 individuals has been shown in swine (0.36%). Also, a decrement of 25.8%, specifically 8770 individuals referring to the saws planned for natural matting was indicated in 2014 comparing to 2013.

Table 2

The swine hybrids livestock at county level available at the 31 control organizations accredited for the management of the zootechnical registers

County	*Total hybrids livestock (no. of individuals)*
Arad	373
Argeş	2615
Bacău	203
Bihor	528
Braşov	308
Brăila	2163
Calaraşi	717
Constanţa	6493
Ialomiţa	1121
Iaşi	513
Mureş	1057
Neamţ	497
Prahova	935
Satu Mare	292
Sibiu	136
Timiş	5350
Total	23301

Table 3

The number of boar reproducers authorized referred into the national register of the centers for semen collection, processing and storage in swine*

County	*No. of authorized boar reproducers*
Arad	26
Argeş	30
Bacău	13
Bihor	23
Bistriţa Năsăud	3
Braşov	29
Brăila	79
Calaraşi	48
Constanţa	66
Covasna	3
Dolj	9
Ialomiţa	46
Iaşi	13
Maramureș	3
Mureş	42
Neamţ	40
Olt	18
Prahova	10
Satu Mare	21
Sibiu	12
Timiş	249
Total	783

* According to the data recorded in October 2015.

Focusing on the artificial insemination data registered in 2014, a number of 298,418 were in pig; the number of the natural matting registered in 2014 in pig stand for 9200 Also, the number of saws planned for artificial insemination raised up in ratio of 1.72%, compared to 2013, while the actual number of females artificially inseminated showed a 1% ratio decline (corresponding to 3095 individuals).

In 2014, 2,846,292 total offsprings were obtained in swine, 2,765,411 piglets resulting from artificial inseminations. The number of total offsprings went down in a 1.9% ratio (54,088 individuals), while the number of piglets resulted from artificial inseminations, registered a 2% decline (57,336 individuals), in comparison to 2013.

The male reproducers showed in Table 3 are accounting for the Large White, Landrace, Duroc, Pietrain breeds and also for some pig hybrids, from inside or abroad the country origins.

Conclusions. The existing as well as the potential conflicts on the relation between protection and development should be viewed and resolved within comprehensive sustainable management framework, with strong references to the control organizations accredited for the management of the genealogical and zootechnical registers. For implementing a controlled and accurate reproduction strategy at national level in swine, the national artificial insemination training programmes shall be strongly intensified in the future. In order to increase the swine livestock and the pork meat production towards a balanced national offer/demand ratio the reproductive programmes shall make more use of the authorized boars reproducers referred in the national register while diminishing clandestine natural mating.

References

Alexandri C., Zahiu L., Ion R., 2006 The European integration of the Romanian agricultural markets. Terra Nostra Publishing House, Iași, România.

Botha M., Oroian I. G., Petrescu-Mag I. V., Gavriloaie C., 2014 Mangalitsa: the recovery of a rustic genetic heritage. Porc Res 4(2):30-36.

Moldovan M., 2010 The Romanian meat sector- characteristics and post accession developments. Agriculture, economics and rural development, New series year VII, 1:141-159.

Oroian I. G., Petrescu-Mag I. V., 2014 Mangalitsa breed returns to homeland. Porc Res 4(1):19-21.

Popescu A., 2012 Study concerning the trends in pork market in Romania. Lucrări Ştiinţifice - Seria Zootehnie, USAMV Iași 57:99-103.

Popescu A., 2010 Consideration concerning Romania`s meat market. Scientific Papers, Serie D, Animal Science, USAMV Bucharest 1:270-275.

Ramirez A., 2011 Swine pathogen transmission: recognition, monitoring, and prevention, PhD thesis, Iowa State University.

Rusu A. V., 2011 [Evaluation the influence of some extender compounds on boar semen storage and cryopreservation]. PhD thesis, ASAS Bucharest. [In Romanian].

Socol C. T., Criste F. L., Rusu A. V., Mihalca I., 2015 Perspectives on reproductive biotechnologies for FAnGR breeding and conservation, Porc Res 5(2):31-38.

Turek Rahoveanu A., Constantin M., Beciu S., Turek P., Zahiu L., Turek M., Dachin A., 2009 Chain analysis in Romania`s meat sector. Ars Academia Publishing House, Bucharest, pp. 84-88.

*** ANZ, 2015 Raport de activitate pentru anul 2014, http://www.anarz.eu/Anarz AdministratorSite/public/Raport+de+activitate.aspx (last view: 10.11.2015).

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Authors:
Claudia-Terezia Socol, National Agency for Animal Husbandry "Prof. dr. G. K. Constantinescu", The National Centre for Professional Training in Animal Husbandry, Romania, Cluj, Florești, 255 A. Iancu Street, 407280, e-mail: clausocol@yahoo.com
Cristinel Gigi Șonea, National Agency for Animal Husbandry "Prof. dr. G. K. Constantinescu", Department of Animal Genetic Resources Conservation and Protection, Romania, Ilfov, Balotești, 1 Calea București, 077015, e-mail: cristinel.șonea@yahoo.com

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