



**„ION IONESCU DE LA BRAD” IASI  
UNIVERSITY OF LIFE SCIENCES**



Scientific field: ANIMAL SCIENCE

# **HABILITATION THESIS**

**Nutritional evaluation of some animal  
productions obtained in different rearing  
systems**

**PhD Assoc. Prof. Daniel SIMEANU**

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## **A. ABSTRACT**

The research effectuated at national and international level in husbandry domain are more and more focused, not only to highlight the quantitative aspect of animal productions, but as well as on quality of those productions.

Such research targeted on influence of rearing systems on quantitative level of animal productions, on animals' welfare as well as on chemical content of obtained productions and even on their nutritive value. Another research direction is the one of farm animals' nourishment impact on productive level, animals' welfare and on quality of obtained productions.

All those research are a consequence of consumers' demand for choosing animal products which were obtained through rearing technologies which offer an adequate welfare state to animals, as well as the premises of realization of a suitable product from qualitative point of view.

The most important influence factor for those two aspects of animal productions is animal's nourishment. In the last period more and more emphasis is being placed for that principle "from fork to plate", through which are intense analysed all the aspects implicated into alimentary chain.

Such research was in my preoccupation since the start of my academic career. In habilitation thesis entitled "**Nutritional evaluation of some animal productions obtained in different rearing systems**" I presented some research which I had done in this direction, as well as other results of evolution of my professional, scientific and academic career.

Thesis is structured in according with nowadays legislation and regulation of UASVM Iași regarding organization and conducting of the process for obtain the habilitation attestation, in the following sections: A – Abstract; B – Scientific and professional realisations; career's evolution and development plans; B.I. – Scientific, professional and academic realisations; B.II. – Evolution and development plans of my professional, scientific and academic career and B.III. – References.

The selected results for highlight the evolution of my career, after being awarded with the title of Doctor in Agricultural sciences – Animal Sciences from 2003, are presented in section B.I., grouped in two subchapters which comprise research regarding the influence systems or nourishment on eggs and meat quantitative and qualitative productions at some animal breeds. To realise this part of habilitation thesis I utilised articles published in period 2008 – 2019.

The results of effectuated studies are succinct presented on those two research directions (eggs, meat), as can be founded in Chapter I. Scientific realizations.

First presented research direction was the one which include research regarding physical-chemical and nutritional evaluations of egg production obtained in different birds' rearing systems and nourishment influence on quality of obtained eggs. Also, includes research on nutritional values of some ovoproducts.

The conclusions of first studies enlightened the fact the eggs obtained from birds reared in free range system had superior values face to the eggs obtained in conventional system regarding physical-chemical parameters, but differences were very small. However I mentioned the fact that was notable differences at yolk pigmentation.

The conclusions of the studies regarding influence of nourishment on yolk colouration degree show the fact that chemical quality indexes weren't influenced by supplementation of birds' food with fodder additives for increasing of yolk colouration degree.

The second targeted research direction into the current thesis included research regarding evaluation of meat production obtained in different rearing systems. Studies were focused on meat of hen broiler poultry, *Polyodon spathula* sturgeon and domestic rabbit.

The first study was effectuated aiming to compare the productive performances of two batches of hen broiler chickens reared in different technological conditions. At the end of research was concluded that chickens reared on permanent layer, but with access at external paddock had quite weak results in comparison with chickens reared in conventional system on permanent layer. This state of affairs is due to illnesses, to a continuous agitation state, to lack of a checkout for light intensity and due to great number of accidents.

The research on quality of paddlefish meat show the fact that at this breed of North American sturgeon could be obtained a meat with remarkable nutritive qualities, offered by the high content in proteins, in lipids with high unsaturated degree, in vitamins and minerals. Regarding biological value of proteins was observed that this one increase with fish aging.

At the end of the chapter are presented research on sensorial, physical-chemical and nutritional features of domestic rabbit meat, where were analysed three different groups of musculature (LD, SM and TB). Study revealed the fact that form this point of view the highest rate of proteins was founded in LD, the highest lipid content was in TB, and the fatty acids quantity, for all analysed

muscular groups, had higher values at females, with a favourable rate PUFA:MUFA.

In Chapter II. Professional realisations – could be founded the most important results which I obtained professionally and academically speaking, as follows: publication of 13 handbooks (5 as single or first author); grant director at two research projects obtained by competition and member in other 11 grants; obtaining of 6 awards.

In Section B.II I included the proposed targets for career development both for didactic sphere as well as in scientific sphere, in according with strategic aims of Faculty of Animal Science and UASVM Iași, as well as several possibilities for their achievement.