ABSTRACT

The Habilitation Thesis on "*Contributions to the study of buffalos' productive performance in Romania* " elaborated by dr. Livia Vidu contains four chapters, which present the milestones of didactic and scientific activity. The professional achievements and career development plan are summarized on the basis of quantifiable indicators and reference items of scientific research and academic activity.

In the first chapter is presented in synthesis the scientific, professional and academic achievements. After obtaining the scientific title of Ph.D. in Animal Science in 2002, the author has deepened area of cattle research by including in the sphere of scientific concerns the buffalo species. The development of professional training was conducted at national level by postgraduate and postdoctoral studies and international studies in prestigious universities from Germany, Italy, Canada, Egypt. The didactic activity started with the completion of the bachelor studies in 1996, going through all the stages of academic levels from assistant to professor in the Faculty of Animal Science in University of Agronomic Sciences and Veterinary Medicine from Bucharest.

The publishing activity of the author is reflected in the 18 specialty books / manuals and laboratory guides, of which 11 specialty books and specificity of the course: 5-primautor / coordinator / single author, 1- international collective -5 coautor manuals and 2- laboratory guides. The special contribution to the study of buffalo from Romania, reflected in the books "Monograph of buffalos in Romania and worldwide" and "Peculiarities of phenotypic, genotypic and growth of indigenous buffalos" was appreciated by the Academy of Agricultural and Forestry in Romania with the award "GK Constantinescu "in 2009 and 2015.

The didactic activity was carried out with scientific research, reflected in 22 scientific research projects, including: director / project manager -7 projects (one international project); team member of international projects -4 projects; team member of national projects (member, technical expert, lecturer) -11 projects.

The results of own research were published in journals and volumes of scientific conferences in internationally used. Thus during the years, have been published over 100 papers,

of which 10 –ISI indexed articles, 60 – BDI indexed articles, 8-Abstact European Federation of Animal Science, and 30 - articles in professional journals.

The chapter 2 of the thesis holds the largest share and presents the scientific research of the author. Thus, the chapter is organized in chronological order of the area of buffalo research, taking into account the national and international context, as well as the research topics gained through the national and international competitions. The content of the chapter presents the author's most important contributions to the study of milk production in buffaloes in Romania and to study of buffalo meat production in our country. The reproductive skills of buffaloes in Romania are analyzed in the context of the achievements of European and Asian breeds.

The author highlights the special value of the buffalo, as local genetic resource, given the especially valuable productive potential of this species. In total milk production structure in the world, the buffaloes milk is the second most important source after the dairy cow. In this context researches were conducted on a very large number of buffaloes from all over Romania, making a distribution of buffalo ecotypes on growth areas. The researchers coordinated by author habilitation thesis went in all counties in Romania where buffalo are raised in order to record as faithful the herds and their particular characteristics. There have been three study centers (North-West of Romania, the Romanian Centre and South Romania), it have been undertaken extensive research with establishing the objectives of research clearly. In these centers of buffalo farming was conducted quantitative and qualitative control of milk production. Thus, in 2006-2008 it has been analyzed 960 completed lactation and it was registered a maximum milk production in the study center of northwestern Romania (1334 kg milk). In the 2012-2013 period the analysis of Fagaras area for buffaloes who completed the lactation, the average quantity of milk increased to 1669 kg milk, with limits between 2549 kg and 600 kg. If we compare the averages recorded for European breeds, we note that the values found by us are after Italy and Bulgaria -2175 kg 1870 kg. In the chemical composition of buffalo milk what makes the difference from other species is fat, which has limits between 7.21 and 8.13%.

Compared to cow's milk in buffalo milk are found, mineral salts are an amount greater with 0.01%, which is rich in calcium and phosphorus and poor in sodium and chlorine. In the buffalo milk minerals are large quantity and therefore the increased power buffering explains slower development of acidity in dairy production consequently the increased calcium content reduces coagulation time.

The author of the thesis allocates special attention and the performance achieved by young buffalos in meat production. Thus, it has conducted experiments fattening where the animals have been monitoring monthly, in terms of feed consumption, average growth of gain with making body measurements for each animal. The analyzes on the animal body were made after the slaughter of animals for each butchers region separately and it was made biochemical analysis. This research presents in an unified framework the value of buffalo meat and particularly potential of species important for the meat market.

Another chapter developed in this habilitation thesis is dedicated to recognition and impact of didactic and scientific activity of researcher. The scientific papers coordinated by the author, are cited in 2 papers indexed Web of Sicence and 15 papers indexed in other international databases. An important step in recognizing the professional work of the author was in 2014 when she was appointed - ***Representative Member of the International Buffalo Federation***, and in 2014 she became ***National Coordinator FAO for the Management of Animal Genetic Resources for Romania.*** .

Chapter 4 presents the development plan and career progress for candidate with a focus on the scientific future, academic trajectory and professional visibility.