



## Memorial of Professor Teresa Żebrowska (1934-2016)



Photo Andrzej Jeżo

Professor Teresa Żebrowska PhD, DSc, was born in 1934 in the village Cieciorcki, Mazovia, in a big family with which she had bosom and warm life-long relationships. From her parents she acquired the rules and principles which were always the most important for her: patriotism, responsibility and respect for though work.

Prof. Żebrowska studied animal sciences at Zootechnics Faculty at the Warsaw University of Life Sciences - SGGW. After graduation, she started working at the Department of Animal Nutrition, University of Warmia and Mazury in Olsztyn, where under supervision of Prof. Józef Dubiski, she conducted research on proteolysis in the rumen. In this research she showed her interest in the innovative techniques using the nylon bags *in situ* method for the first time in Poland. In 1963 she obtained a PhD and a year later she started working with Prof. Jan Kielanowski in the Institute of Animal Physiology and Nutrition of the Polish Academy of Sciences in Jabłonna.

That was the beginning of her great scientific career, which was the effect of her research curiosity, enthusiasm and involvement, search for new methodological solutions and also her great diligence and talent.

The research conducted by Prof. Teresa Żebrowska concerned physiological basis of animal nutrition, mainly protein digestion, amino acid absorption and protein metabolism. Great part of these studies was conducted in cooperation with foreign institutions, which was very unique in Poland at that time.

Studies on protein digestion in monogastric animals started in The National Institute for Research in Dairying in Shinfield (England) on rats and were followed by research on nutrients absorption in pigs, initiated and continued in Jabłonna. In these experiments, Prof. Żebrowska mastered the innovative methods of fitting cannulas into different parts of digestive tract of pig and of collection the intestinal fluid and pancreatic juice. The research on the

role of large intestine in amino acid metabolism and utilization in pigs she described in the DSc thesis entitled 'The research on amino acid digestion and absorption in the pig digestive tract'. She obtained the Doctor of Science degree in 1976 at Warsaw University of Life Sciences - SGGW.

The results of this research rank among the most important scientific achievements of Prof. Żebrowska. Using clear experimental design and precise experimental techniques, she demonstrated that amino acids fed either in form of protein *per os* or infused as protein hydrolysate into the duodenum are well utilized by pigs, but introduced into the large intestine undergo the deamination and are not used for protein synthesis. These results were cited in many papers and nutritional handbooks. They formed the background of the new protein evaluation system based on the contents of amino acids absorbed in the small intestine (*ileal digestible*). This system is now commonly used in pig nutrition, and partly in the poultry nutrition, and recently has been indicated by the FAO experts as the most appropriate for the food protein evaluation.

In the years 1977-1978 Prof. Żebrowska was working as a visiting professor in the Texas A&M University in USA where she continued research on protein secretion and absorption in pig.

In her later studies, Prof. Żebrowska focused on protein and non-protein nitrogenous compounds metabolism in the pig and sheep with the use of labeled  $^{15}\text{N}$  and  $^{14}\text{C}$ . This research conducted in cooperation with the scientists from the Humboldt University in Berlin and the Oskar-Kellner Institute in Rostock (Germany) furnished many new information about the rate of protein turnover in tissues and organs, and quantification of the endogenous nitrogen compounds secreted and reabsorbed in the pig and sheep digestive tract. Prof. Żebrowska investigated also the influence of feed composition on secretion and pancreatic juice composition in these animals.

In 1985 Professor Żebrowska received the title of professor.

In the years 1990-1999 she was the Director, and in 1999-2003 the Deputy Director of the Kielanowski Institute of Animal Physiology and Nutrition, Polish Academy of Sciences in Jabłonna. During that time, the Institute took over the publication of the scientific journal Polish Agricultural Annual, Ser. B. Animal Science edited by Polish Academy of Sciences. It was transformed into the Journal of Animal and Feed Sciences of which prof. Żebrowska was the co-editor.

As a Director of the Institute, Prof. Żebrowska worked intensely on its development through promoting publishing activity, participation in the national and international research projects and supplying the advanced analytical equipment.

Prof. Żebrowska always actively participated in the Polish and worldwide scientific life. For four years (1976-1980) she was a coordinator of research on nutrients digestion and absorption in farm animals, being a part of the national project concerning the production and utilization of protein feeds, and was involved in coordination of other scientific programs. She was the member of Polish Society of Animal Production, German Society of Nutrition Physiology and the vice-chairman of Nutrition Commission of European Federation of Animal Science. She cooperated with many scientific institutions not only in Europe, but also in USA, and gave lectures in many international symposia and congresses. Her activity resulted in many publications in esteemed journals and also bosom long-life friendships.

Prof. Żebrowska was the author or co-author of 300 scientific papers, the editor or author of monograph chapters published abroad, and other communications. She was awarded Knight's Cross of Polonia Restituta and Officer's Cross of Polonia Restituta.

In 1994 she became a corresponding member and in 2007 the full member of the Polish Academy of Sciences. In 2004 she was awarded the title of Doctor *honoris causa* by West Pomeranian University of Technology in Szczecin.

Apart her passion for science, Prof. Żebrowska had many other broad interests. She loved mountains, and the view on the Chochołowska Valley full of blooming crocuses she estimated as the most beautiful in the world. She was the admirer of classical music – in her apartment the music of great composers had been always heard. She loved also spending time with friends.

In 2010 Prof. Żebrowska stepped down from her scientific activity. On July 29, 2016, she passed away in Jabłonna after serious and long illness, and was buried in the family grave in Płońsk.

We will remember Prof. Teresa Żebrowska as the outstanding scientist and wonderful, modest, helpful and extremely sensitive person. She rendered outstanding services to country, science and people.

*Editorial Board  
of Journal of Animal and Feed Sciences*