



Poznań University of Life Sciences

**V INTERNATIONAL SCIENTIFIC  
CONFERENCE**

**MEAT IN TECHNOLOGY  
AND HUMAN NUTRITION**

*under its working title*

**MEAT AS A FUNCTIONAL  
AND PRO-HEALTHY PART OF OUR  
DIET**

**ABSTRACTS OF PLENARY LECTURES  
& POSTERS PRESENTATIONS**



POZNAN – TARNOWO PODGÓRNE  
JUNE 27 – 29, 2018



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POZNAŃ UNIVERSITY OF LIFE SCIENCES



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## THE ROLE OF NANOCOPPER IN TURKEY NUTRITION AND THE ENZYMIC ACTIVITY OF AMINOPEPTIDASES

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**Introduction:** Copper is one of the microelements significant for every organism. It affects the development of the nervous system and, through the synthesis of collagen and elastin, the regeneration of the connective tissue and thus also the growth of the organism.

The studies aimed at examining the effect of diet supplementation with copper nanoparticles on the activity of proteolytic enzymes in the breast muscles of turkeys.

**Material and methods:** The experimental material consisted of Hybrid Converter turkey fowls divided into nutrition groups receiving 20, 10 or 2 mg/kg Cu.

After the end of the nutrition period samples of the turkeys' breast muscles were taken and homogenised. The homogenates obtained were analysed for the basic chemical composition and activity of aminopeptidases, using procedures accepted during the laboratory accreditation process (PB – 02, AB1398).

**Results:** It was observed that in groups of birds fed NANO-Cu the activity of aminotransferases was lower than that recorded for birds receiving a traditional feed. Moreover, the introduction of 20mg/kg Cu to the birds' diet resulted in an increase of the proteolytic activity, irrespectively of the Cu form used.

**Conclusions:** The use of NANO-Cu in animal nutrition may protect muscle cells from an increase in cell apoptosis, which may be related to the antioxidant protection of copper molecules.

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