



# II. INTERNATIONAL ACADEMIC RESEARCH CONGRESS

## ABSTRACT BOOK

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## THE EFFECT OF MELATONIN AND ZINC APPLICATION IN RATS INDUCED MAMMARY CARCINOMA WITH DMBA ON LIPID PEROXIDATION

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**BACKGROUND and AIM:** Mammary cancer, which is the second most common cause of cancer deaths, is one of the problems of global public health. It is argued that anti estrogenic agents such as melatonin will lead to a new aspect in treatment of breast cancer. In addition, zinc, which plays a crucial role in the etiology of cancer, is vital for many cellular processes, and an important trace mineral. Trace elements are regarded as multiple anti-cancer agents that regulate various biological mechanisms. **METHODS:** In this study, it was aimed to investigate the effects of melatonin and zinc application on lipid peroxidation in female rats with DMBA (7,12-dimethylbenz[a]anthracene) -induced mammary carcinoma. The study groups are composed of control, DMBA control and treatment (zinc, melatonin and zinc+melatonin) groups. Female rats (except the control group) were given a strong carcinogen DMBA. After tumor formation, zinc and melatonin were administered to the treatment groups at a dose of 5 mg/kg/day for 4 weeks. Four weeks later, rats were euthanized taking blood from their hearts under anesthesia and uterus tissue were taken. MDA as an indicator of lipid peroxidation and GSH levels as an indicator of antioxidant activity in uterus tissue samples were determined by spectrophotometric method. **RESULTS:** The highest level of MDA found in uterus tissue was obtained (129,94±33,80 nmol/g tissue) in the DMBA control group (P<0,05). MDA levels of the uterus tissue significantly decreased (66,01±12,70 nmol/g tissue) in the zinc+melatonin group (P<0,05). The lowest GSH level found in uterus tissue was obtained in the DMBA control group (14,97±2,30 µmol/g protein). Furthermore, the highest increase was found in the zinc + melatonin group (27,57±6,12 µmol/g protein). **CONCLUSIONS:** The findings showed that supplementation of zinc+melatonin suppressed the lipid peroxidation in rat with mammary carcinoma.

**Keywords:** Mammary cancer, DMBA, GSH, Lipid peroxidation, MDA

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## SYNBIOTICS SUPPLEMENTATION IMPROVED PERFORMANCE AND BONE CHARACTERISTICS

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This study was carried out to determine the effects of dietary synbiotics supplementation on performance and bone characteristics in broilers. A total of 231 Ross 308 male daily broiler chicks were allocated into one control and two treatment groups each containing 77 chicks for 39 day experimental period. Basal diet supplemented with the synbiotic (Maflor sachet, Bifidobacterium lactis (5x10<sup>9</sup>cfu/g) and inulin) and multiprobiotic synbiotic (Maflor plus capsule, Bifidobacterium lactis, Lactobacillus acidophilus and Lactobacillus casei (7x10<sup>9</sup>cfu/g) and inulin) for the diets of the first and the second treatment groups, respectively. Dietary synbiotics supplementation improved feed efficiency and bone biomechanical properties. These characteristics are very important for broiler health. As a conclusion, synbiotics are effective feed additives in broiler nutrition due to their beneficial effects on performance and bone characteristics.

**Keywords:** Synbiotics, broiler, performance, bone

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