DETERMINATIONS OF COPPER AND ZINC CONTENT IN SOME FEEDSTUFFS AND BROILER MIXED FEEDS DURING 2006-2007

Albu Aida, O. Popescu, Felicia Țârcă, Cecilia Pop, I.M. Pop

University of Agricultural Sciences and Veterinary Medicine, Animal Science Faculty, 8 Mihail Sadoveanu Alley, 700489 Iasi, Romania, email: albuaida@yahoo.com

Key words: copper, zinc, minerals, fodders, mixed feeds, broiler chicken

SUMMARY

The concentrations of trace elements in animal feed is influenced by several factors: gender, species or varieties of crop, soil type etc (3). Copper and zinc are essential elements for animals; its have an active role both metabolic and physiological (6, 8). Deficiency or toxicity of Cu and Zn are caused by interrelations they have with the presence and concentration of other mineral elements (1,2,4,5,9). The purpose of this work was to evaluate copper and zinc level from feedstuffs and chicken broiler mixed feeds during 2006-2007. Thirty-five samples of corn meal, wheat, sunflower meal, soybean meal, full fat Soya, and broiler mixed feeds (starter, grower and finisher) were analyzed to evaluate Cu and Zn level in feeds. The harvesting and the preparation of fodder samples for analysis were made according to the legal standard SR ISO 6498:1999 and to the sanitary- veterinary norms. Cu and Zn were determined using atomic absorption with flame GBC-AVANTA apparatus. In 2006 the mean values for Cu ranged from 0.62 mg/kg in soybean meal to 2.87 mg/kg in finisher broiler mixed feed, and in 2007 from 1.82 mg/kg in wheat to 3.43 mg/kg in full fat Soya; in 2006 the mean values of Zn ranged from 0.144 mg/kg in wheat to 0.673 mg/kg in full fat Soya, and in 2007 from 0.086 mg/kg in wheat to 3.262 mg/kg in finisher broiler mixed feed (as mg/kg of substrate at dry matter). The high values of mixed feed in copper and zinc is explained through included vitamin-mineral premix in prescription. The level of these oligoelements is higher in 2007 year from 2006. The results show that Cu and Zn levels are under the nutrient requirements of broilers (8 mg/kg Cu and 40 mg/kg Zn) (7). The fodder samples analyzed did not show toxicological risk to animals.

BIBLIOGRAPHY

1. Beasley V., 1999, IVIS Books, Ed.Veterinary Toxicology, (online), U.S.A
2. Berger Larry L, 1993, Effective Copper Nutrition for Farm Animals, SALT INSTITUTE