

## EFFECT OF LOW-DIGESTIBLE CARBOHYDRATES ON CAECAL AMMONIA CONCENTRATION IN RATS AND TURKEYS

Jerzy Juśkiewicz<sup>1</sup>, Zenon Zduńczyk<sup>1</sup>, Paulius Matusevičius<sup>2</sup>, Łucja Brzuzan<sup>1</sup>

<sup>1</sup>*Institute of Animal Reproduction and Food Research of Polish Academy of Sciences, Tuwima 10, 10-747 Olsztyn, Poland*

<sup>2</sup>*Lithuanian Veterinary Academy, Department of Animal Husbandry, Tilžės str. 18, LT-47181 Kaunas, Lithuania*

**Summary.** The work comments on the results of a series of experiments on caecal ammonia concentration in rats and turkeys fed diets containing different types and doses of low-digestible carbohydrates (LDC). Dietary lactulose and inulin (4-8%) added to a diet for rats effectively reduced the caecal ammonia concentration compared to the cellulose or sucrose control group. A strong adverse effect was observed in the case of 4-5% oligosaccharides from lupin and pea seeds. Dietary 5% xylitol and  $\beta$ -galactosyl-derivatives of sugar alcohols slightly enhanced or had no effect on caecal ammonia concentration in rats. In young turkeys, small doses (0.1-0.4%) of low-digestible carbohydrates were sufficient to decrease ammonia concentration in the caeca, while in older birds that effect was not observed.

**Keywords:** low-digestible carbohydrates, ammonia, caecal digesta, rat, turkey.