

## THE EFFECT OF CARBOHYDRATES AND LIGNIN OF PLANT MATERIALS ON POPULATIONS OF ASCARIS SUUM AND OESOPHAGOSTOMUM DENTATUM IN PIGS

Saulius Petkevičius, Peter Nansen , Knud Erik Bach Knudsen

**Summary.** The effect of diets varying in type and level of carbohydrates and lignin of plant materials on the populations of *Ascaris suum* and *Oesophagostomum dentatum* was investigated experimentally. Fifty experimental pigs were divided randomly into five equal groups, infected with 600 infective *A. suum* eggs and 6000 infective L3 larvae of *O. dentatum* per pig. The animals were assigned to 5 diets which consisted: diet A – a traditional ground barley plus protein feed, diet B – commercial full-constituent pelleted feed, diet C – barley flour plus protein, diet D – barley flour, inulin, sugar beet fibre plus protein and diet E – barley flour, wheat bran plus protein. The faecal egg excretion was followed and the pigs were slaughtered at 8 weeks p.i. and samples were taken from the small and large intestine. Intestinal contents were analysed for worm burdens, worm location, female worm fecundity, concentration of insoluble marker, carbohydrates, plant lignin and organic acids. *A. suum* faecal egg counts and worm burdens were low and comparable in all diet groups, whereas the *O. dentatum* faecal egg counts and worm burdens were significantly higher in pigs fed on the diets rich in non-starch polysaccharides and plant lignin (diets A and E) than in pigs fed diets B, C and D.

**Keywords:** pigs, *Ascaris suum*, *Oesophagostomum dentatum*, carbohydrates, nutrition.