

Characterization of several biological activities of porcine interferon gamma

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E. coli-derived recombinant porcine interferon gamma (rPoIFN- γ) exerts an antiviral activity against Coronavirus Transmissible Gastroenteritis infection of porcine kidney cells. In addition, rPoIFN- γ is able to modulate immune responses in the pig. Thus, rPoIFN- γ at the dose of 1 μ g/ml increases spontaneous cytotoxic reactivities (or NK activity) of peripheral blood lymphocytes from 2-month old or less than 1-week old piglets. rPoIFN- γ is also active on blood monocyte cultures by increasing their Interleukine 1 secretory potential. These preliminary results illustrate the antiviral and immunomodulatory effects of porcine recombinant IFN- γ .

Sanitary state of pig herds from Brittany. 2. Lesions of the urogenital tract

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An abattoir study was conducted in Brittany (France) with the aim of evaluating urogenital tract lesion in culled sows. Samples were taken at random on the slaughter line in January 1986 and April 1987. A total of 225 sows were subjected to a macroscopic examination and 100 of them to histological and bacteriological investigations. A questionnaire was mailed to the farmers to get further information about the culled animals. The macroscopic examination showed a prevalence of metritis (12 p. 100), but many subclinical and chronic lesions were only detected by histological examination. The latter revealed a prevalence of 26 p. 100 for metritis, of which 7 p. 100 were acute cases. Severe lesions of the bladder wall (cystitis) were recorded in 12 p. 10 of the sows. Cystic follicles were detected in 6.2 p. 100 of the sows. Multiple big cysts were generally bilateral and associated with severe lesions of the urogenital tract and with anoestrus. Animals affected with cystitis and metritis were older than intact sows. Bacterial examinations revealed the presence of facultatively pathogens in metritis.

Contribution to the analysis of the consequences of urinary troubles in an intensive sow rearing unit

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A study was made in a herd of 180 Large White sows kept under intensive herd management conditions to determine the origin of farrowing and lactation disorders leading to important losses of piglets and to early culling of the sows. Sows were free from highly contagious diseases. More than one third exhibited a high urinary nitrite and/or protein or blood content indicating a severe urinary infection. This diagnosis was confirmed by the systematic autopsy of culled animals.

Water intake with a pushbutton system and a single meal a day during gestation were found to be insufficient. The supply of a larger amount of water (minimum 18 l/day during gestation) with two meals a day improved the motricity of the animals. The sows being more active had less difficulties at farrowing, milk secretion was improved and piglets were more vigorous. During lactation, the water intake of sows was higher (minimum 24 l/day) which led to an increased feed intake. The mortality rate of piglets was reduced. The number of weaned piglets was higher and they were heavier (1 more kg).

After weaning, a larger number of sows exhibited grouped oestrus. Reproduction disorders were less frequent. It was concluded that changing the feeding and drinking technique was associated with an improved behaviour of the sows and a better sanitary status resulting in a better efficiency.

Flooring characteristics and foot lesions in sows and piglets. Influence on performance and nature, frequency and severity of lesions

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A study was made to determine the influence of flooring on the performance of sows and suckling piglets and on the characteristics of foot and body lesions and their variations with time. Data concerned 1118 litters belonging to 102 batches observed over a six-year period (1981-1986). In terms of performance, straw-covered concrete floors seemed to be more favourable to the sows, whereas in piglets the best results were obtained with metallic slatted floor (+ 9 p. 100 growth, - 2 p. 100 losses). All the sows kept on partly slatted concrete floor during the service-pregnancy period entered the farrowing house with foot lesions (fissure and erosion of the horn) all the more frequent as the litter order was high. During lactation, foot lesions were less frequent but the number of udder and teat injuries was higher. At 8 days of age, the proportion of intact piglets was higher on straw-covered floor than on slatted floor (27.5 and 17 p. 100, respectively). This difference was more marked at weaning (65 versus 19 p. 100). Lesions were variable and concerned heels and wrists. Their incidence and severity were higher on plastic slatted floor. However, their effect on performance could not be demonstrated. After weaning, straw bedding prevented lesions in 60 p. 100 of piglets. This protection was reduced on slatted floor (5-times lower). On concrete slatted floor lesions mainly concerned heels and were more severe. During the fattening period, full concrete slatted floor provoked an important erosion of the claws. Frequency of lesions recorded at slaughter depended on that measured at the end of the post-weaning period.

Impact of new technologies on the control of infectious diseases in the pig

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Available technologies mainly derived from cell fusion and DNA recombination have great implications in the control of infectious diseases in animal species, including the pig. Together with a short description of the relevant techniques, this review provides several examples of existing or