

The Kielanowski Institute of Animal Physiology and Nutrition
Commission of Animal Nutrition – Committee of Animal Sciences
Polish Academy of Sciences

XXXIV International Symposium

**Nutritional and Hormonal Factors
in Regulation of Growth, Development
and Productivity of Animals**

*50th Anniversary of
The Kielanowski Institute of Animal Physiology and Nutrition
Polish Academy of Sciences
Jablonna*



Serock, 21-22 June 2005
Poland

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Monday, June 20th

16⁰⁰ **Registration**

Tuesday, June 21st

8⁰⁰ **Registration**

9⁰⁰ **Opening**

Chairmen – O. Simon and J. Kowalczyk

9¹⁵ Nutritional programming: prenatal nutritional effects on the regulation of growth and metabolism
C.C. Metges, H.M. Hammon, Germany

9⁵⁰ Methodological considerations as to quantify nutrient and energy metabolism in lactating sows
K. Jakobsen, P.K. Theil, H. Jørgensen, Denmark

10²⁵ Proposal for nutritional assessments of feeds from genetically modified plants
G. Flachowsky, H. Böhme, Germany

11⁰⁰ **Coffee break**

Chairmen – H. Hagemeister and F. Brzóska

11³⁰ Health-related effects of nutritionally modified foods of animal origin
P. Pisulewski, M. Franczyk, B. Kostogryś, Poland

12⁰⁵ Effect of nutrition on oxidative stress
E. Sawosz, A. Chwalibog, T. Niemiec, I. Kosieradzka, J. Skomial, Poland, Denmark

Discussion

13⁰⁰ – 14⁰⁰ **Lunch**

Chairmen – A. Madej and J. Polkowska

- 14⁰⁰ Nutritional and hormonal control of gut epithelium remodeling in neonatal piglets
R. Zabielski, D. Laubitz, J. Woliński, Poland, P. Guilloteau, France
- 14³⁵ Gut regulatory peptides as mediators of gastrointestinal tract growth, motility, and development of secretion in young ruminants
P. Guilloteau, France, R. Zabielski, Poland
- 15¹⁰ Relations between pig growth and regulatory mechanism of pancreas – facts and hypotheses
S.G. Pierzynowski, D. Kruszewska, S. Rengman, O. Fed'kiv, M. Dąbek, A. Hotowy, E. Werpachowska, B.R. Weström, Sweden, Poland
- 16⁰⁰ **Coffee break**
and
Poster Session
- 19⁰⁰ **Picnic**

Wednesday, June 22th

Chairmen – A. Chwalibog and D. Jamroz

- 9⁰⁰ How yeast cell wall components can alleviate mycotoxicosis in animal production and improve the safety of edible animal products
J.P. Jouany, A. Yiannikouris, G. Bertin, France
- 9³⁵ Critical aspects of feed protein evaluation systems for ruminants
P. Huhtanen, Finland
- 10¹⁰ Physiological aspects of compensatory growth in pigs
G. Skiba
- 10⁴⁵ Stress – related effects on reproductive capacity of pigs
A. Madej, M.T. Madsen, Y. Brandt, H. Kindahl, S. Einarsson, Sweden

Discussion

11¹⁵ **Coffee break**
and

Poster Session

12¹⁵ **Summarizing of Poster Sessions – B. Pastuszewska**

12⁴⁵ **Concluding remarks and closing – K. Jakobsen**

13³⁰ **Lunch**

Ruminants

1. Effect of selected rumen fauna on the digestion of starch and outflow of α -glucose polymers from the reticulo-rumen of sheep
Bełżecki G. and T. Michałowski
2. Effect of a simplified “stair-step” feeding system on the performance of Red-and-White \times Holstein-Friesian heifers
Bilik K. and J.A. Strzetelski
3. The fatty acid profile of meat of suckling lambs from ewes fed rapeseed and linseed
Borys B., A. Borys and J.J. Pająk
4. Effects of vitamin E supplemented to rapeseed and linseed diets on slaughter value of lambs
Borys B. and A. Jarzynowska
5. The effect of rapeseed fed to suckled ewes on the fatty acid profile of lamb meat
Borys B., J.J. Pająk and A. Borys
6. Methane production in *in vitro* studies as an effect of different additives to grass-clover silage
Cieślak A., A. Potkański, J. Kowalczyk, M. Szumacher-Strabel, K. Czaczyk, A. Gubała, M. Janicki and E. Szymankiewicz
7. Effect of dietary fat source on nutrients digestibility and rumen fermentation in sheep
Ćwiek A. and F. Borowiec
8. Changes in selected biochemical blood parameters in dairy cows after administration of melatonin
Darul K. and H. Kruczyńska
9. Saturated and monounsaturated fatty acids in *Musculus thoracis* of fattening bulls fed silage of grass or maize
Dymnicka M., J. Klupeczyński, A. Łozicki, J. Miciński and J. Strzetelski

10. The fatty acid profile of *M. thoracis* and *M. semitendinosus* intramuscular fat
Dymnicka M., J.A. Strzetelski, J. Klupczyński, J. Miciński and A. Łozicki
11. Short-term vasopressin analogue treatment does not influence the nitrogen balance in sheep
Faix Š., L'. Leng, J.J. Pająk, K. Boldižárová, Z. Faixová, M. Czauderna and J. Kowalczyk
12. Effects of pre- and postpartum injections of Se, Zn and vitamin E on their concentration in ewes milk
Gabryszuk M., M. Czauderna, M. Gralak and Z. Antoszkiewicz
13. Concentrate-enriched diets for calving heifers in the periparturient period increase milk yield and improve blood metabolite profile
Jurkiewicz A., J.A. Strzetelski, J. Kowalczyk and K. Bilik
14. The effect of feeding raw and extruded feed containing soyabean meal on pancreatic juice digestive enzyme activities in young calves
Kapica M., J.L. Valverde Piedra, I. Puzio, M. Bieńko, S.E. Szymańczyk and R.P. Radzki
15. Effect of partly replacing dietary concentrate by beet pulp on milk yield and composition in early lactating cows
Kowalski Z.M., P. Micek, M. Łopuszańska-Rusek and E. Ćwikilewicz
16. The relationship between cation-anion differences in dairy cow diets and some blood indices levels and milk composition
Krzywiecki S., R. Bodarski, J. Preś and W. Łuczak
17. Influence of balancing mineral nutrition of dairy cows on milk yield and the content of some minerals in blood and milk
Matras J., B. Bujanowicz-Haraś and J. Wojtasik
18. Effect of barley cultivar on the chemical composition and rumen degradability of dry matter, protein and starch
Micek P., Z.M. Kowalski and F. Borowiec
19. Effect of extrusion of rapeseed oilmeal on rumen degradability and intestinal digestibility
Michalak S. and A. Potkański

20. The distribution of fibrolytic activity in the rumen of ciliate-free and faunated sheep
Michałowski T.
21. Duodenal morphology in calves fed liquid diets with different frequency
Niwińska B.
22. The effect of rapeseed oil on the ruminal degradability and intestinal protein digestibility of rapeseed meal, soyabean and lupin seed
Nowak W. and S. Wylegała
23. Performance of calves as related to the proportion of plant protein in milk replacer and to feeding frequency
Osięgłowski S., B. Niwińska, J.A. Strzetelski and K. Bilik
24. Excretion routes and distribution of selenium in sheep tissues after selenite loading
Petrović V., K. Boldižárová, Š. Faix, J. Kowalczyk, M. Czauderna, M. Mellen and L'. Leng
25. The stability of silage containing biological and chemical additives assessed using a *Rusitec* system
Potkański A., A. Cieślak, M. Szumacher-Strabel, S. Wylegała, K. Raczkowska-Werwińska, A. Gubała and J. Kowalczyk
26. Nutritional value of galega (*Galega orientalis* Lam.) forage and silage for ruminants
Skórko-Sajko H., J. Tywończuk, J. Skomial, J.J. Pająk, D. Minakowski and J. Sajko
27. The effect of *Saccharomyces cerevisiae* on the *in vitro* degradability of maize grain, cellulose and wheat straw dry matter
Wylegała S., W. Nowak and R. Mikula
28. The effect of fish oil in calf diets on the fatty-acid content of *Musculus thoracis* intramuscular fat
Zymon M., J.A. Strzetelski and J. Kowalczyk

Pigs

29. Glucose, insulin and cholesterol levels in blood of growing pigs given diets with various sources of fibre
Antuszcwicz A., E. Świąch and T. Żebrowska
30. The effect of serum concentration of leptin in fatteners on their productivity
Barowicz T., M. Pieszka, M. Pietras and W. Kędzior
31. Nutritional assessment of silage from transgenic inulin synthesizing potatoes for pigs
Böhme H., B. Hommel and G. Flachowsky
32. The fate of DNA of transgenic inulin synthesizing potatoes in pigs
Broll H., J. Zagon, A. Butschke, A. Leffke, A. Spiegelberg, H. Böhme and G. Flachowsky
33. Fine particle size and enzyme supplementation as factors improving utilization of protein from diets with lowered protein contents by pigs
Flis M. and W. Sobotka
34. The effect of different dietary fibres on microbial population and short-chain fatty acids concentration of caecum in pigs
Furgal-Dierżuk I.
35. Effect of L-carnitine diets on performance and blood metabolites in sows
Grela E.R., A. Czech and R. Chachaj
36. Gallic acid or sage extract supplement in feed mixtures for finishing pigs
Hanczakowska E. and M. Świątkiewicz
37. Effect of different levels of faba bean in diets on growth performance of young pigs
Kasprowicz M., A. Frankiewicz and M. Urbaniak
38. Effects of linseed and oat in antibiotic-free diets on the gut health, mucosal integrity and performance of piglets
Krasucki W., Z. Mroz and K. Szafran
39. Total and ileal digestibility of protein and amino acids of soyabean meal extruded at 140 and 160°C by pigs
Kuśnierek W. and A. Potkański

40. Effects of feed additives on nutrient digestibility and the bacterial status of faeces in pigs
Lipiński K., C. Purwin, J. Tywończuk, Z. Zduńczyk, M. Wróblewska, E. Laniewska-Trokenheim and I. Warmińska-Radyko
41. Effect of cultivar and harvest year on the composition of yellow lupin seeds
Lubowicki R., A. Kotlarz and I. Jaskowska
42. Exocrine pancreatic secretion and plasma leptin and insulin levels in growing pigs of different genotypes
Matyjek R., R. Zabielski, Z. Długolecka and T. Żebrowska
43. Evaluation of the effectiveness of acidifying preparations in piglet rearing
Mroczek I., A. Frankiewicz, A. Łyczyński and E. Rzosińska
44. The effect of acidifying additives on the microbiological stability of feed mixtures
Mroczek I., A. Frankiewicz and M. Selwet
45. Influence of breed and body weight of pigs on the fatty acid profile of *Musculus longissimus dorsi*
Raj St., G. Skiba, D. Weremko, H. Fandrejewski, W. Migdał and F. Borowiec
46. The effect of crude protein dietary level of fatteners on their carcass and meat quality traits
Rzosińska E., A. Łyczyński, E. Pospiech, M. Koćwin-Podsiadła, G. Czyżak-Runowska, A. Frankiewicz, M. Urbaniak and I. Mroczek
47. The effect of dietary energy concentration on the hormone profile and lipid metabolism in growing pigs
Sawosz E., A. Chwalibog, J. Skomial, I. Kosieradzka and A.J. Zięcik
48. Effect of diets differing in fibre content fed during the early growth stage of pigs on subsequent energy and nutrient digestibility
Skiba G., St. Raj, D. Weremko and H. Fandrejewski
49. The enzymatic activity of the small intestine mucosa of young pigs as affected by high fibre diets fed after weaning
Skiba G., St. Raj, D. Weremko, H. Fandrejewski and J. Woliński
50. The effect of vitamin E on the quality of meat of pigs fed maize grain silage
Świątkiewicz M. and E. Hanczakowska

51. The effect of organic feeding on carcass and meat quality of fattening pigs
Urbańczyk J., E. Hanczakowska and M. Świątkiewicz
52. Relationship between mineral and protein deposition in restricted and realimented pigs
Weremko D., H. Fandrejewski, St. Raj, G. Skiba and M. Czauderna
53. Alpha-ketoglutarate reduces duodenal myoelectric disturbances induced by *E. coli* enterotoxin in pigs
Yao G., M. Ceregrzyn, J. Woliński and R. Zabielski

Poultry

54. The effect of supplementing vitamin C and sodium to diets on the fatty acid profile of goose egg yolk lipids
Barteczko, J., E. Kapkowska, I. Ratych, F. Borowiec and R. Augustyn
55. The effect of diet composition and length of storing eggs on changes in the fatty acid profile of egg yolk
Boruta A. and J. Niemiec
56. Preliminary study of the microbial spectrum of the digestive tract in broilers fed diets with and without antibiotic supplementation
Brzóška F., S.B. Buluchevskij, B. Śliwiński and K. Stecka
57. Influence of dietary conjugated linoleic acid (CLA) on the fatty acid content and CLA profile of egg yolks in laying hens
Czauderna M., J. Kowalczyk, P.M. Pisulewski and K. Korniluk
58. Effect of naked oats and enzyme supplementation on performance of hens and quality traits of eggs
Fabijańska M., M. Boruta, J.L. Sokół, A. Hermanowska and M. Chojecka
59. Choice feeding for laying guinea fowl parent flocks in a free-range system
Frątczak M., D. Józefiak and A. Rutkowski
60. The effect of supplementing a symbiotic, organic acids, or β -glucanase to barley-based diets on the performance of broiler chickens
Józefiak D. and A. Rutkowski

61. Gastrointestinal responses of turkeys to the addition of exogenous xylanase and glucanase to diets
Juśkiewicz J., D. Mikulski, J. Jankowski and Z. Zduńczyk
62. The relative effectiveness of liquid MHA-FA compared with DL-methionine in broiler chickens - a dose-response experiment
Kaszuba A., J. Koreleski, S. Świątkiewicz, W. Szczurek and A. Lemme
63. Effect of fish oil and vitamin E in the diet on the fatty acid composition of breast meat in broiler chickens
Koreleski J. and S. Świątkiewicz
64. The influence of hulless barley on selected physical and chemical parameters in broiler chicken femur bones
Kwiecień M.
65. Responses of 36- to 63-day-old BUT Big 6 turkey toms to graded dietary methionine+cysteine levels
Lemme A., K. Kozłowski, J. Jankowski, A. Petri and Z. Zduńczyk
66. The effect of feeding ochratoxin A-contaminated diet to broiler breeding flocks on the chickens performance
Niemiec J., M. Stępińska, J. Riedel and P. Szeleszczuk
67. Response of broiler chickens on *Lactobacillus* and *Bifidobacterium* probiotic strains
Orłowski A., M. Bielecka, W. Smoragiewicz, S. Kask and J. Jankowski
68. The effect of feeding broiler chickens during transportation on yolk sac, body weight and anti-IBDV level in blood
Pisarski R.K., I. Pijarska and H. Malec
69. Influence of elevated fat content in fodder on triiodothyronine (T₃) and thyroxine (T₄) levels in broiler-chicken blood serum
Podgórski W. and J. Truchliński
70. Effect of feeding silage from grasses infected with endophytic fungi on growth and slaughter value of lambs
Podkówka W., B. Borys, J. Mikołajczak and P. Dorszewski

71. The effect of a probiotic composed of *Lactobacillus* and yeasts, and of flavomycin on the performance and faecal microflora of broiler chickens
Smulikowska S., K. Śliżewska, J. Biernasiak, A. Mieczkowska and P. Michałowski
72. Digestible amino acids and enzymes in broiler diets: effects on carcass composition of two broiler strains
Szczurek W.
73. Performance and intestinal viscosity in broilers fed diets containing dehulled or naked oats and enzymes
Szymczyk B., P. Hanczakowski and W. Szczurek
74. The effects of particulate limestone and 25-hydroxy-cholecalciferol in broiler chicken diets on the mechanical properties of bones
Świątkiewicz S. and J. Koreleski
75. The effect of a low-protein diet on Japanese quail rearing, egg quality and hatchability
Tarasewicz Z., D. Szczerbińska, M. Ligocki, A. Dańczak, D. Majewska and K. Romaniszyn
76. Composition of rapeseed cakes and meals manufactured under different technological conditions
Wiąz M., W. Mroczyk, D. Józefiak and A. Rutkowski
77. The effect of protein level in early feeding on yolk sac nutrient concentrations in chickens
Wertelecki T. and D. Jamroz
78. Performance and intestinal parameters of turkeys fed a diet with inulin and oligofructose
Zduńczyk Z., J. Jankowski and J. Juśkiewicz
79. Degree of phytate conversion and type of phytase A modify production parameters and egg shell quality in laying hens
Żyła K., M. Mika, J. Koreleski and S. Świątkiewicz

Other Species

80. The short-chain fatty acid content in the caecal digesta of rats fed diets with various sources of fibre
Antuszewicz A., M. Taciak and T. Żebrowska
81. The chromium concentration in organs and tissues of rats fed a diet enriched in chromium
Arkuszewska E.
82. Effect of dietary CLA isomers on selenium, zinc, copper, chromium, magnesium and calcium levels in rat liver
Czauderna M., J. Kowalczyk, E. Bulska, K. Boldižarova, K.M. Niedźwiedzka, A. Ruszczyńska and E. Leng
83. Dietary conjugated linoleic acid isomers and selenium affect the fatty acid profile in rat liver
Czauderna M., J. Kowalczyk, K. Korniluk, I. Wąsowska and B. Pastuszewska
84. Response of rats to a moderate intake of soyabean lectin
Czerwiński J., H. Leontowicz, M. Leontowicz and M.A. Gralak
85. Response of rats to grapefruit flavonoids and inulin fed singly or in combination
Frejnagel S., Z. Zduńczyk and M. Wróblewska
86. Transgenic potato tubers with overexpression of 14-3-3 protein in growing rat diets. 1. Selected hormone activities and liver function status
Kosieradzka I., E. Sawosz, J. Skomial and J. Szopa
87. Transgenic potato tubers with overexpression of 14-3-3 protein in growing rat diets. 2. Redox indices in blood and brain
Kosieradzka I., E. Sawosz, J. Skomial, J. Szopa, I. Dudkowska and B. Pastuszewska
88. Effect of high doses of L-ascorbic acid on the antioxidative/oxidative state in the rats
Niemiec T., E. Sawosz and A. Chwalibog

89. Effect of the addition of L-ascorbic acid megadoses to the diet on morphology of the lens in rats
Ostaszewska T., E. Sawosz, T. Niemiec and W. Bielecki
90. Content and apparent ileal digestibility of nutrients in diets fed to breeding polar foxes over the non-mating season
Szymeczko R., E. Święch, K. Burlikowska and Z. Podkówka

Methods

91. Improving the analysis of fatty acids using a combination of gas chromatography and Ag⁺ liquid chromatography
Czauderna M., J. Kowalczyk, K. Korniluk and I. Wąsowska
92. Protein degradability of silages in the rumen estimated by NIRS
Kański J. and Z.M. Kowalski
93. The use of the *in vitro* filter bag method for predicting digestibility of forages
Ludwin J., Z.M. Kowalski and M.R. Weisbjerg
94. Nutritional impact on intestinal bacterial communities of pigs studied by molecular biology techniques
Simon O., D. Taras and W. Vahjen

