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1. THE RESULTS OF THE EXPERIMENTAL INVESTIGATIONS CONCERNING THE LACTOGENIC EFFECT OF STH IN SOWS

Iuliana Codreanu, N Constantin

Faculty of Veterinary Medicine, Bucharest

Address for correspondence: Faculty of Veterinary Medicine, Splaiul Independentei No. 105, Sector 5, Bucharest, Romania

ABSTRACT

Knowing the general anabolic role of GH and its implications in inducing and developing milk production, it has been aimed to obtain this effect for the mainly milk constituents (carbohydrates, fats, proteins) in correlation with blood biochemical parameters.

This hormone (commercial name is Norditropin) has been administered in sows, from 10 days before farrowing and in the next 10 days after farrowing.

The study concerning the implications in milk production has been made through the ponderal dynamic (individual and group weight) in experimental and control group. We also tried to establish some possible relations between quantitative expressions (through the piglets weight development) and qualitative expression (through milk main components dosing).

Key words: GH, sows, lactation, piglets.

2. THE CYTOTOXIC ACTIVITY OF A₂ PHOSPHOLIPASE PRODUCED BY FUSOBACTERIUM NECROPHORUM

Camelia Papuc, I Togoe, Aneta Pop, M Serban

Faculty of Veterinary Medicine, Bucharest

Address for correspondence: Faculty of Veterinary Medicine, Splaiul Independentei No. 105, Sector 5, Bucharest, Romania

ABSTRACT

An A₂ phospholipase was isolated from the culture supernatant of the *Fusobacterium necrophorum* by ammonium sulfate precipitation and size exclusion chromatography. The enzyme activity was assayed on L- α -phosphatidylcholine- β -oleoyl- γ -palmitoyl substrate and emphasized by thin layer

chromatography and the cytotoxic effect was performed and demonstrated on bovine thrombocytes. The cytotoxic activity of this enzyme is responsible for the bacterium pathogenicity.

Key words: *Fusobacterium necrophorum*, A₂ phospholipase, cytotoxicity.

3. THE INCREASE OF MECHANICAL RESISTANCE OF EGGSHELL BY MANIPULATING THE PHYSIOLOGICAL PROCESSES INVOLVED IN EGGSHELL FORMATION

Liliana Stoica, N Constantin

Faculty of Veterinary Medicine, Bucharest

Address for correspondence: Faculty of Veterinary Medicine, Splaiul Independentei No. 105, Sector 5, Bucharest, Romania

ABSTRACT

The tests were aimed at studying the effect of ration supplementation on laying hens, on the basis of mineral elements having the role of enzyme activators, i.e. Mn and Zn, their quantity and rate, as well as different organic and inorganic sources.

The results of the experiment showed that the ration supplementation by Mn and Zn in the laying hens aged over 48 weeks has led to superior eggshell quality and reduced number of broken eggs.

The organic sources of Mn and Zn proved to be superior to the inorganic sources. The breaking strength was 2332.33 g in the batch fed on organic sources; 2186.26 g in the batch fed on inorganic Zn and 2169.22 g in the batch supplementary fed on mineral Mn.

Key words: eggshell, manganese, zinc, acetazolamide, shell weight, shell thickness, shell deformation, breaking strength.

4. THE DYNAMICS OF IMMUNOGLOBULINE G FROM BLOOD AND COLOSTRUMS IN SHEEP DURING PERIPUERPERAL PERIOD

Carmen Negoita¹, Mariana Tetu-Oporanu², I Togoe¹, N Constantin¹

¹Faculty of Veterinary Medicine, Bucharest

²N.S. "Institute Pasteur" R.A. Bucharest

Address for correspondence: Faculty of Veterinary Medicine, Splaiul Independentei No. 105, Sector 5, Bucharest, Romania

ABSTRACT

In ruminants, immunoglobuline G (especially IgG1) represents the main protein of sero-colostrums (80%).

Our works revealed that colostrums immunoglobuline G presented reverse fluctuations with serum immunoglobuline G. In addition, the colostrums immunoglobuline G reached a peak 7 days antepartum; another increase was recorded on the last 12 hours of pregnancy, then it decreased becoming sub unitary after 72 hours of parturition.

Key words: immunoglobuline G, sheep, blood, colostrums.

5. ASPECTS OF ACID-BASE BALANCE DYNAMICS IN CEREBRAL HYPOXIC HYPOXIA DURING THE OZONE-OXYGEN THERAPY

Michaela Rodica Perieteanu

Army medical Research Center, Bucharest, Romania

Address for correspondence: Michaela Perieteanu, PO 12-PB 303, Bucharest

ABSTRACT

It was conceived and verified experimental pattern for ozone-oxygen therapy of the cerebral hypoxic stress (acute).

A group of white, male rats (weight 180 ± 10 g), acute stressed by hypoxic hypoxia (10% O₂ and 90% N₂) and cured by ozonized blood (40 mg/l O₃) (HIP + O₃ group) was studied comparatively with the normal group (NOR group), and a group of identical stressed animals (HIP group).

For all the groups the following parameters were dosed, which characterized the blood acid-base balance: blood pH, pO₂ (mmHg), pCO₂ (mmHg), HCO₃⁻ ions concentration (mmol/l), total hemoglobin (tHb, g/dl).

With the regard to the acute hypoxic hypoxia: it was surveyed the dynamics of the above blood parameters (under the presence and in the absence of treatment with ozone), exposing that the therapy reduces significantly statistic ($p < 0.01$) the deviations from normal and shorted (with 8 days) the normalizing period of the values. The statistic analysis of the dosed values showed a correlated evolution of these parameters.

Our results may be considered as a premise for the inclusion of the ozone-oxygen therapy into an anti-hypoxic set up.

Key words: stress, hypoxic hypoxia, acid-base balance, ozone-oxygen therapy.

6. BIOCHEMICAL MODIFICATIONS DETERMINED BY THE CRYOCONSERVATION OF THE BULL SEMEN

Cristina Diaconescu, Emanuela Ionescu, M Serban

Faculty of Veterinary Medicine, Bucharest

Address for correspondence: Faculty of Veterinary Medicine, Splaiul Independentei No. 105, Sector 5, Bucharest, Romania

ABSTRACT

The present study analyzes the effects of the conservation process, on variable periods of time, on membrane lipids, free fatty acids and on the intracellular enzyme activity: superoxide dismutase (SOD) and glutathione peroxidase (GPX) from bovine sperm.

The free fatty acids spectrum, revealed through chromatographic gas, both in seminal plasma and in the spermatozoa extract congealed for different time periods, showed a general decrease of the palmitic acid concentration with the increase of the time of refrigeration. It was also detected a severe reduction of the oleic acid concentration because of freezing at -196°C for a long period of time (12 months), decrease that was considered a measure of appreciation for the lipid peroxidation degree of the frozen seminal material.

At enzymatic level, even after a short time (48 hours), the refrigeration produced a partial inactivation of SOD and GPX. Their intracellular activities decreased significantly ($p < 0.05$) and determined an increase of the superoxide anion (O₂⁻) and hydroxyl radical (HO⁻) concentration. Conservation through freezing in liquid nitrogen, even in optimal conditions, produces a depreciation of the semen from biochemical point of view, resulting in the decrease of the spermatozoa fertility.

Key words: frozen bovine sperm, SOD activity, lipid peroxidation.

7. THE INSULIN-LIKE ACTION OF APIUS GRAVEOLUS LECTIN ON BB-DP RATS

Aneta Pop¹, Raluca Negru², R Buligescu², Camelia Papuc¹, Manuella Militaru¹, D Cheta², M Serban²

¹Faculty of Veterinary Medicine, Bucharest

²Nicolae Paulescu Institute of Nutrition and Metabolic Diseases, Bucharest

Address for correspondence: Faculty of Veterinary Medicine, Splaiul Independentei No. 105, Sector 5, Bucharest, Romania

ABSTRACT

Apium graveolus (celery) leaves used in folk medicine as antidiabetic, were the source of a new fucose lectin isolated by affinity chromatography on Fetuin-Sepharose. Purified lectin, administered orally to 5 normal, healthy rats (0.2 mg/g body weight) induced hypoglycemia. A partially purified lectin preparation was orally administered to 30 BB-DP rats of pre-diabetogenic ages (0.8 mg/g body weight) and followed for 3 months. Another group of 30 rats, BB-DP treated under the same condition was used as control. Diabetes mellitus was diagnosed on standard criteria at 16.6% of the lectin treated group and at 30% of the animals in the control group. The lectin treatment induced a delay of the onset of the disease (97.1% days compared with 81.55 days at the control group) and a decrease of the glycemia level at the onset of the disease (316.6 mg/dl at the lectin treated group versus 391.2 mg/dl at the control group).

Key words: diabetes mellitus, lectins, insulin-like action.