

TOPICS OF THE LECTURES OF ANIMAL NUTRITION (3 huors/week)

Winter-term (from 04 September till 15 December, 2006)

I. week (04-08 September)

Information about the thematic of lectures and practices. Order of exams, requirements, pre-requisites, prior obligations. Feeding and Nutrition of Swine. I. Digestive physiology, piglet weaning systems.

József SZABÓ, full professor

II. week (11-15 September) Feeding and Nutrition of Swine. II.

a. Nutrition and feeding of breeding gilts, sows and barrows. Special questions of swine nutrition. (2 hours.)

József SZABÓ, full professor

b. Fattening of pigs. (1 hour.)

András VUCSKITS, lecturer

III. week (18-22 September)

Evolution of the digestion. Feeding and nutrition of healthy rabbits. Rabbit dietetics.

Sándor FEKETE, full professor

IV. week (25-29 September)

Feeding and nutrition of healthy dogs and cats.

József SZABÓ, full professor

V. week (02-06 October)

Feeding and Nutrition of healthy horses.

András BERSÉNYI, research fellow

VI. week (09-13 October)

Feeding and Nutrition of Ruminants. I. Applied digestive physiology, calf feeding, growth promoters for ruminants.

Hedvig FÉBEL, invited private professor

VII. week (16-20 October)

Feeding and Nutrition of Ruminants. II. Dairy heifer rearing systems, nutrition of dairy cows.

Éva CENKVÁRI, senior researcher

VIII. week (23-27 October)

Feeding and Nutrition of Ruminants. IV. Sheep and goat nutrition.

Éva CENKVÁRI, senior researcher

23 October (Monday): study holiday.

IX. week (30 October-03 November)

Feeding and Nutrition of Ruminants. III. Rearing of beef heifers and feeding of beef cows.

Fattening of beefs. Nutritional extension service. (2 hours)

Sándor FEKETE, full professor

Feeding and nutrition of laboratory animals. (1 hour)

Kinga FODOR, lecturer

01 November (Wednesday): study holiday.

X. week (06-10 November)

Dog and cat dietetics. I.

Sándor FEKETE, full professor

XI. week (13-17 November)

Dog and cat dietetics. II.

Sándor FEKETE, full professor

XII. week (20-24 November)

Horse dietetics. Non-infectious abortions. Mycotoxicosis. Legal aspects of nutrition.

Sándor FEKETE, full professor

24 November (Friday), 8.00-13.00: study holiday (diploma issuing ceremony).

XIII. week (27 November-01 December)

Feeding and Nutrition of Poultry. I.

István HULLÁR, assoc. professor

XIV. week (04-08 December)

Feeding and Nutrition of Poultry. II.

István HULLÁR, assoc. professor

XV. week (11-15 December)

Feeding and Nutrition of Poultry. III.

István HULLÁR, assoc. professor

Budapest, 04 September, 2006.

Prof. Dr. József Szabó, DVM, PhD, DSc
head of the institute

TOPICS OF THE WORKSHOPS OF ANIMAL NUTRITION

Winter-term (from 04 September till 15 December, 2006)

1. week (04-08 September): Repetition of the subject from the previous semester I.

András BERSÉNYI, research fellow

2. week (11-15 September): Repetition of the subject from the previous semester II.

István HULLÁR, assoc. professor

3. week (18-22 September): Feeding and nutrition of fur animals. Proteins of Animal Origin.

András BERSÉNYI, research fellow

4th w (25-29 September): Feedstuffs (Distillery and brewery by-products, by-products of starch industry and fruit processing, milk products.) **Éva CENKVÁRI, senior researcher**

5th w (02-06 October): Swine diets. Roots and tubers.

András VUCSKITS, lecturer

6th w (09-13 October): Commercial diets for dogs and cats. Feed processing (heat treatment).

Kinga FODOR, lecturer

7th w (16-20 October): Feeding horses. Harvested green forages II. (Legumes and other forages). Wheat straw.

András BERSÉNYI, research fellow

8th w (23-27 October): Basal diet for dairy cows, milking concentrate.

Éva CENKVÁRI, senior researcher

23 October (Monday): study holiday

9th w (30 October-03 November): Total mixed ration for dairy cows.

István HULLÁR, assoc. professor

01 November (Wednesday): study holiday

10th w (06-10 November): Feeding dry cows. Pasture, forages for pasture. Harvested green forages I. (Grasses.)

Éva CENKVÁRI, senior researcher

11th w (13-17 November): Feeding beef cattle, heifers, and sheep.

Éva CENKVÁRI, senior researcher

12th w (20-24 November): Clinical dietetics of dogs.

András BERSÉNYI, research fellow

24 November (Friday), 8.00-13.00: study holiday (diploma issuing ceremony)

13th w (27 November-01 December): Clinical dietetics of cats.

Kinga FODOR, lecturer

14th w (04-08 December): Poultry diets. Manufactured feeds. **István HULLÁR, assoc. professor**

15th w (11-15 December): Summary of the calculations. **István HULLÁR, assoc. professor**

In case of absence the subject of the workshop must be recited within 2 weeks at the lecturer of the topic. Supervisor of the course: Dr. István HULLÁR, associate professor (50. Rottenbiller Str., Phone extension: 8634; direct number: 478 4122; e-mail: hullar.istvan @ aotk.szie.hu).

Budapest, 04 September, 2006

Prof. Dr. József SZABÓ, DVM, PhD, DSc
head of the institute

Animal Nutrition II.: Final Oral Exam.

Exam period: 16-23 December, 2006,
02 January-03 February, 2007).

EXAM DAYS

December, 2006: 16 (Saturday), 18, 19, 20, 21, 22. Restriction: min. 4, max. 24 candidates/day (English + Hungarian students together).

January, 2007: 2, 4, 9, 11, 16, 18, 23, 25, 30. Restriction: min. 4, max. 12 candidates/day (English + Hungarian students together).

February, 2007: 1, 3 (Saturday). Restriction: min. 4, max. 12 candidates/day (English + Hungarian students together).

Postponing of the exam is possible one day before the original exam date till 12 o'clock at the secretary in Rottenbiller Str. 50. (Phone: 478 4119) or per e-mail at Dr. Bersényi (bersenyi.andras @ aotk.szie.hu) supposed, that there is place empty on another exam day within the given limits.

PREREQUISITES AND PROSESSION OF THE FINAL EXAM

PREREQUISITES OF THE FINAL EXAM

- successful written test made from the general animal nutrition,
 - accepted nutritional summer report,
- successful written exam from the calculations after the 7th semester,
- successful oral "preliminary" exam from feedstuffs made just before the final exam.

PROSESSION OF THE FINAL EXAM

The final exam is made in oral form. First everybody gets a "preliminary" question from the feedstuffs supplemented with identification of a feed. This "preliminary" question is evaluated by degrees "acceptable" or "unacceptable". When it is "acceptable" student can get questions of the final exam.

Everybody gets 3 or 4 questions according to the followings.

1st question: from the question-group I., but those who got mark 4 or 5 on the written test made from the general animal nutrition can ask for the acceptance of this result and can leave out the 1st question.

2nd question: from the question-group II/A.

3rd question: from the question-group II/B.

4th question: from the question-group II/C.

QUESTIONS OF THE "PRELIMINARY" EXAM FROM FEEDSTUFFS

In case of a concrete feed you should know

- its approximate nutrient content,
- amount can be fed from it in different species (e.g. kg/animal/day, or % in the diet),
- factors influencing the use of feed (e.g. antinutritional factors, harmful effects, mycotoxins, etc.).

1. Cereal grains (list, their approximate nutrient content).
2. Corn, corn gluten meal.
3. Wheat, rye.
4. Barley, oats.
5. Grain legumes (list, their approximate nutrient content).
6. Oilseed (solvent) meals (list, their approximate nutrient content).
7. Full fat soybean, extracted soybean meal.
8. Extracted sunflower meal.
9. Extracted rapeseed meal.
10. Wheat bran, wheat germ.
11. Dried sugar beet pulp, beet molasses.
12. Malt sprouts, brewers grains, brewers yeast.
13. Dried skim milk, dried whey, dried buttermilk, and casein.
14. Fish meal.
15. Making silages, haylages.

- 16. Corn silage.
- 17. Alfalfa hay.
- 18. Meadow hay.
- 19. Wheat straw.
- 20. Carrot, potato.

QUESTION-GROUP I: VETERINARY GENERAL ANIMAL NUTRITION

- I/1. Nutrition and food safety.
- I/2. Composition of plants and animal body, importance of their knowledge, analytical possibilities.
- I/3. Analytical methods feedstuffs' major chemical components; acid and peroxide number..
- I/4. Scheme of metabolism (N, C, water and energy). Methods of measurements.
Heat damage of proteins.
- I/5. Energetic evaluation of feeds I. Conception, evaluation for monogastric animals.
- I/6. Energetic evaluation of feeds II. Conception, evaluation for ruminants.
- I/7. Feed intake regulation, and importance of its knowledge.
- I/8. Dietary effect. Fulfilment Unit, Replacement Value.
- I/9. Nutrients' digestibility, conception, methods for determination.
- I/10. Endogen and exogenous factors influencing nutrients' digestibility.
- I/11. Protein evaluation systems: monogastric animals.
Antinutritive and antimetabolite substances (chemical classification, effects on animals).
- I/12. Protein evaluation systems: ruminants, with a special regard to Metabolisable Protein systems.
- I/13. General function of minerals, homeostasis: absorption, storage, excretion. Principles of how to control the status (HACCP).
- I/14. Cation-anion balance of rations (dUA, EB, CAB) and its clinical consequences.
- I/15. Ca, P and Mg, their important deficiency syndromes.
- I/16. S, Na, K and Cl, their important deficiency syndromes.
- I/17. Fe, Zn, Cu and Mn, their important deficiency syndromes.
- I/18. F, I and Co, their important deficiency syndromes.
- I/19. Generally about vitamins. How to estimate requirement of vitamins. Special biological effects (E.g. anticarcinogenic, immunostimulant etc.). Questions of stability.
- I/20. Vit. A, beta-carotene and other carotinoids; their important deficiency syndromes.
- I/21. Vit. D and E, Se, their important deficiency syndromes.
- I/22. Vit. K and C, their important deficiency syndromes.
- I/23. Vit. B1, B2 and B6, their important deficiency syndromes.
- I/24. Vit. B12, the niacin and the pantothenic acid, their important deficiency syndromes.
- I/25. Biotin, folic acid and cholin, their important deficiency syndromes.
- I/26. Microflora and -fauna in rumen and in gut. Consequences of fibre deficient feeding (acidosis, etc.)
- I/27. Microbiology and mycology of feeds.
- I/28. Growth promoters (genotype-environment interaction, mechanism of action, classification, legal tendency in their use, probiotics, prebiotics).
- I/29. Functional feeds, nutraceuticals.
- I/30. Immunological aspects of animal nutrition.
- I/31. Antinutritional factors (chemical classification, effects on animal).
- I/32. Deterioration proteins, rancidity of feedstuffs. Acid and peroxide number.
- I/33. Feed-borne diseases (BSE etc.), food safety, warranty questions.
- I/34. Relationship between the nutrition and human, and animal health.
- I/35. Nutrition and reproduction.

QUESTION-GROUP II/A: FEEDING AND NUTRITION OF SPECIES

- 1/II/A Digestive physiology of pig
- 2/II/A Practical piglet weaning systems
- 3/II/A Feeding and nutrition of growing and fattening pig.
- 4/II/A Pregnant sow's feeding and nutrition.
- 5/II/A Lactating sow's feeding and nutrition
- 6/II/A Feeding and nutrition of replacement breeding gilt.

- 7/II/A Digestive physiology of the horse.
- 8/II/A Nutrients' requirements of the horse.
- 9/II/A Feeding and nutrition of the working horse and stallion.
- 10/II/A Feeding and nutrition of the mare and foal.
- 11/II/A Digestive physiology of cattle.
- 12/II/A Calf rearing and feeding.
- 13/II/A Feeding and nutrition of dairy heifers.
- 14/II/A Practical dairy cow nutrition.
- 15/II/A Feeding and nutrition of dry cow.
- 16/II/A Feeding and nutrition of fresh cow.
- 17/II/A Feeding and nutrition of beef heifers.
- 18/II/A Feeding and nutrition of beef cow.
- 19/II/A Nutrient, mineral and vitamin requirement of fattening beef.
- 20/II/A Beef fattening systems (dry lot, feedlot; slaughter weight and age, etc.).
- 21/II/A Digestive physiology of healthy dogs and cats.
- 22/II/A Nutrition of laboratory animals.

QUESTION-GROUP II/B: FEEDING AND NUTRITION OF SPECIES

- 1/II/B Biology and digestive physiology of rabbit.
- 2/II/B Practical feeding and nutrition of the rabbit.
- 3/II/B Feeding and nutrition of broiler chicks.
- 4/II/B Feeding and nutrition of the replacement pullets.
- 5/II/B Feeding and nutrition of laying hens.
- 6/II/B Feeding and nutrition of roasting ducks.
- 7/II/B Feeding and nutrition of breeding ducks.
- 8/II/B Feeding and nutrition of roasting geese and young meat geese.
- 9/II/B Force-feeding of geese.
- 10/II/B Feeding goslings breeders and geese in laying period.
- 11/II/B Feeding and nutrition of broiler and giant turkeys.
- 12/II/B Feeding turkeys reared by half intensive method and feeding flock replacement turkeys.
- 13/II/B Feeding and nutrition of breeding turkeys.
- 14/II/C Pigeon (for meat) feeding and nutrition.
- 15/II/B Nutrients requirements of sheep and their most important feeds.
- 16/II/B Feeding and nutrition of the pregnant and lactating ewe.
- 17/II/B Lamb rearing and fattening. Nutrition of the ram.
- 18/II/B Goat feeding and nutrition.
- 19/II/B Legal aspects of feeding with special regard to the deterioration of feeds.
- 20/II/B Non-infectious abortion of sows.
- 21/II/B Theory and practical importance of homeorrhetic control and compensatory growth.
- 22/II/B Use of growth promoters for fattening beef. Theory, praxis and legal considerations in Europe and in USA.

QUESTION-GROUP II/C: CLINICAL DIETETICS

- 1/II/C The most important metabolic troubles, and deficiency syndromes of poultry.
- 2/II/C The most important metabolic troubles and deficiency syndromes of carnivore fur-bearing animals.
- 3/II/C The most important metabolic troubles and deficiency syndromes of herbivore fur-bearing animals.
- 4/II/C The most important metabolic troubles and deficiency syndromes of sheep and goat.
- 5/II/C The most important metabolic troubles and deficiency syndromes of rabbit (fibre deficiency, alkaline value, per oral antibiotics, mycotoxins).
- 6/II/C Herd health control, nutritional horse consulting service.
- 7/II/C Clinical dietetics of horse (generally). Actual questions of dietetics.
- 8/II/C Cause and anatomical localization of colic in horses.
- 9/II/C Effect of mycotoxins (F-2, T-2) on the reproductive functions of rabbit, pig, sheep and heifer.
- 10/II/C The most important metabolic troubles and deficiency syndromes of calves.

- 11/II/C The most important metabolic troubles and deficiency syndromes of periparturient dairy cow; their prevention and nutritional treatment.
- 12/II/C Ketosis of dairy cows.
- 13/II/C Nutritional extension service in cattle herds (theory and praxis).
- 14/II/C Importance of milk urea level. Connection between UFP and milk urea level in dairy cattle.
- 15/II/C Herd diagnosis based on milk and urinary keton bodies in dairy cattle. Ketonuric index.
- 16/II/B Control of mineral status in cattle herds.
- 17/II/C Nutritional extension service in pig herds.
- 18/II/C Practical nutrition of the healthy dog and cat (types of diets, companies, reference data etc.).
- 19/II/C Physiological and biochemical basics of special cat metabolic disorders and deficiency syndromes, their prevention and treatment
- 20/II/C Genetics, endocrinology and nutritional management of obesity. Special diets for senior dogs and cats.
- 21/II/C Dietetics of dog and cat with renal failure.
- 22/II/C Dietary management of urolithiasis in cats and dogs.
- 23/II/C Nutritional lameness and skin diseases (dogs and cats).
- 24/II/C Dietetics of dog and cat with diabetes.
- 25/II/C Dietetics of congestive heart failure and hepatic diseases.
- 26/II/C Dietetics of gastrointestinal and pancreas diseases.
- 27/II/C Influence of nutrition on skeletal status in dog and cat.
- 28/II/C Dietetics of hard working dogs. Dietetic treatment of cancer in dogs and cats.
- 29/II/C Raising and feeding of orphan foal, pup and kitten.
- 30/II/C Rabbit dietetics.

Budapest, 4 September, 2006

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