



UNIVERSITATEA DE ȘTIINȚE AGRICOLE ȘI MEDICINĂ VETERINARĂ CLUJ-NAPOCA

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Graduation exam topics - 2024

Faculty of Veterinary Medicine

Animal breeding and Animal Productions

1. Animal identification and animal colors.
2. Animal breeds.
3. Age determination in animals by dentition for bovines, sheep and horses.
4. Morphoproductive traits of breeds for the species: bovines, sheep, goats, swine and birds.
5. Morphoproductive types of domestic animals and their correlations with physiological and constitutional types.
6. Conformation and fattening status in animals.
7. Production technologies of animals.
8. The factors that condition the animal's productions.

Bibliography

1. Cîmpean Adrian, Dana Liana Pusta, Roman Morar (2019) - Creșterea animalelor, Editura AcademicPres, ISBN: 978-973-744-734-0, p. 208.
2. Morar R., Dana Liana Pusta (2001) - Zootehnie generală Ed. Relief Cluj-Napoca.
3. Morar R, Dana Pusta (1999) - Zootehnie specială vol. I, II, III. Ed. Relief Cluj-Napoca.
4. Morar Roman, Ioan Pașca, Gheorghe Ștefca (2010) – Zootehnia generală, nutriția animală și sisteme de producții animaliere – Taurine, ovine, caprine, cabaline, suine, păsări, albine, Ed. Risoprint, Cluj-Napoca, ISBN 978-973-53-0461-4, p. 546,.
5. Pașca Ioan, Roman Morar, Cîmpean Adrian, Borzan Mihai (2016) - Sisteme de producții animaliere – practicum: îndrumător de lucrări practice, ISBN 978-973-53-1709-6, Editura Risoprint 2016, p. 226.
6. Pașca Ioan (2016) - Sisteme de producții animaliere 2 – curs. Manual didactic, ISBN 978-973-53-1746-1, Editura Risoprint 2016, p. 192.
7. Pașca Ioan (2015) – Păsări – Sisteme de producții la principalele specii de fermă, Ed. Risoprint, Cluj-Napoca, ISBN 978-973-53-1670-9, p. 326.
8. Pașca I., Morar R., Dezmiorean D., Alexandra Matei – coordonator Liviu Al. Mărghitaș (2008) – Sericicultură teoretică și practică, Ed. Risoprint, Cluj-Napoca.
9. Pașca Ioan, Roman Morar (2009) - Creșterea animalelor și sisteme de producții animaliere - Suine, ISBN: 978-973-53-0112-5, Ed. Risoprint, Cluj-Napoca, p. 167.



10. Pașca I., Morar R. (2007) - Creșterea animalelor și Sisteme de producții animaliere – Taurine, ovine, caprine, Ed. Risoprint, Cluj-Napoca.

Pharmacology and Pharmacy

1. Detergents, antiseptics, disinfectants.
2. Analgesic, antipyretic, anti-inflammatory (steroidal and non-steroidal) medication.
3. Antibiotic medication
4. Antiparasitic medication
5. Antifungal and antiviral medication

Bibliography

1. Bazele farmacologice ale terapiei medicale veterinare. Cernea Mihai, Anca Chereji, Laura Cătană, Ediția a III-a, 2015, Ed Academicpress.
2. Veterinary pharmacology and therapeutics. H.R. Adams, Ed Iowa State, 8 edition, University Presss, 2001
3. Veterinary pharmacology & therapeutics. J.E. Riviere, M.G. Papich, Ed. Blackwell publishing, 2009
4. Veterinary drug handbook. D.C. Plumb, Ed. Blackwell publishing, 6 edition, 2008

Microbiology, Immunology and Epidemiology

1. Biological products used for prophylaxis and diagnostic: vaccines, immune sera, gammaglobulins and revelatory products.
2. Hypersensitivity reactions: type I, II, III and IV (delayed hypersensitivity).
3. Epidemiological units and indicators; incidence and prevalence; correlation between incidence and prevalence; the population, sampling of animal populations, sampling methods.
4. Epidemiologic surveillance: general epidemiological surveillance; data collection, processing and interpretation of data; the transmission and use of epidemiological informations; epidemiological surveillance networks; epidemiological surveillance for eradication of diseases.
5. Epidemiologic investigation: classification of epidemiologic investigations; indications regarding the epidemiologic investigation; the process of epidemiologic investigation according to the sanitar-veterinary laws.

References

1. Veterinary Immunology 2010, Răpunțean Gh., Nadăș G. edit. AcademicPres, Cluj –Napoca.
2. Ian R. Tizard – Veterinary, Immunology, ninth edition, Elsevier Saunders, 2013



3. Veterinary Epidemiology, third edition: Thrusfield M., Blackwell Publishing, 2005.
4. Veterinary Epidemiology - An Introduction, 2010, Dirk U. Pfeiffer, John Wiley & Sons.

Physiopathology

- 1) Mechanisms of cell injury, influence of oxidative stress and antioxidant systems
- 2) Pathophysiology of stress in animals
- 3) Fever – etiology, pathogenesis and clinical manifestations
- 4) Cancer, etiology, mechanism, and clinical consequences
- 5) Shock - etiology and pathogenesis: classification, stages and cellular
- 6) Functional abnormalities and pathogenesis in hematological disorders
- 7) Syndromes of liver insufficiency: mechanism and clinical manifestations
- 8) Kidney failure: etiology, pathogenesis, classification and ancillary diagnosis

Bibliography:

- 1) Sevastre B., **General Pathophysiology**, Risoprint **2016**, pg 27-38, 63-65, 99-107, 133-138, 185-199
- 2) Sevastre B., **Pathophysiology of Organ Systems**, Academic Press **2019**, 11-41, 122-133, 138-150
- 3) **Pathologic Basis of Veterinary Disease**, 2017, Sixth edition, James F. Zachary (editor), Elsevier, 1-42, 44-70, 286-320, 617-675, 724-780.

Food inspection and control of food of animal origin

1. The official control in slaughterhouses for bovine, swine and poultry – public health promotion:
 - Food chain information;
 - Protection and welfare of the animals;
 - Ante-mortem inspection;
 - Post-mortem inspection;
 - Laboratory tests and animal by-products not intended for human consumption management;
 - Decisions regarding information on food chain;
 - Decisions regarding meat;
 - *Trichinella* spp. detection in meat.
2. Meat chain – integrated surveillance and traceability.
3. Traceability establishment of the animal destined for slaughter at the farm and slaughterhouse level.



1. Laboratory examination regarding quality and freshness assessment of meat and meat products:
 - Sensorial examination;
 - Microscopic examination;
 - Chlorides determination;
 - Nitrates determination;
 - pH;
 - Total base volatile nitrogen determination;
 - Microbiological examination of food products: interpretation of the results and measures.
5. Laboratory examination regarding quality and conformity of raw milk destined for further processing:
 - Antibiotic residues identification;
 - Aerobic plate count;
 - Somatic cell count;
 - Fat determination;
 - Proteins determination;
 - Lactose determination;
 - Freezing point determination.
6. Establishment of conformity and quality of dairy products.
7. Specific hygiene and safety rules on milk chain.
8. Application of compliance principles through laboratory examinations in order to assess quality and freshness of eggs, honey and fish.
9. Foodborne illnesses – case study, prevention and management of possible risks.
10. Rules for official sample collection in case of exceeding the maximum residue limits.

REFERENCES

1. Lecture support material and practical activities support materials.
2. *** Regulation (EC) No 178/2002 – general principles and requirements of food law, establishing the European Food Safety Authority and procedures for food safety.
3. *** Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuff.
4. *** Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for on the hygiene of foodstuffs.
5. *** Regulation (EC) No 854/2004 Of The European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption.
6. *** REGULATION (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules.
7. *** Commission Regulation (EC) No 1441/2007 of 5 December 2007 amending Regulation (EC) No 2073/2005 on microbiological criteria for foodstuff.
8. *** REGULATION (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived



products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation).

9. *** Commission Implementing Regulation (EU) 2015/1375 of 10 August 2015 laying down specific rules on official controls for *Trichinella* in meat
10. *** Commission Regulation (EU) 2015/728 of 6 May 2015 amending the definition of specified risk material set out in Annex V to Regulation (EC) No 999/2001 of the European Parliament and of the Council laying down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies.

Infectious diseases

Bacterial diseases in animals

Viral and prionic diseases in animals

Necropsy

1. Necropsy in dogs and cats.
2. Necropsy in horses.
3. Necropsy in large ruminants.
4. Necropsy in small ruminants.
5. Necropsy in pigs.
6. Necropsy in birds.
7. Necropsy in rodents and fur animals.
8. Veterinary Forensic Diagnosis.

Bibliography:

1. McGalvin M.D., Zachary J.F. – Pathologic basis of veterinary disease, fourth edition, Mosby Elsevier, 2007.
2. BB, K.V.F., P.C. KENNEDY, N. PALMER – Pathology of Domestic Animals, Academic Press, San Diego, California, 1993.

Internal medicine

- I. General syndromes in internal medicine
 - Hydro-electrolytic and acid-base disorders
 - Toxemia
 - Sepsis
 - Shock
 - Syncope



- Cardio-respiratory arrest
- Anaphylaxis in domestic animals

II. Gastroenterology

- Oral disorders by species
- Pharyngeal diseases by species
- Esophageal disorders
- Diseases of the stomach
- Colic syndrome
- Gastropathies in horses
- Gastropathies in ruminants
- Gastropathies in pigs
- Gastropathies in carnivores
- Acute and chronic enteritis in carnivores
- Dynamic ileus
- Mechanical ileus
- Strangulated and non-strangulated intestinal obstructions, by species
- Colon and anorectal diseases, by species
- Acute peritonitis, by species
- Liver failure, by species
- Choledocholithiasis in horses and cattle
- Diseases of the exocrine pancreas in carnivores

III. Respiratory diseases

- Diseases of the larynx and trachea
- Bronchial diseases
- Lung diseases
- Acute and chronic pleuritis

IV. Cardiovascular diseases

- Congestive heart failure
- Cardiomyopathies by species
- Cardiac arrhythmias, therapy
- Acute and chronic diseases of the endocardium
- Congenital heart disease: PDA, aortic stenosis, pulmonary stenosis
- Infective endocarditis

V. Diseases of the urinary tract

- Acute and chronic urinary insufficiency
- Bladder diseases
- Urolithiasis by species
- glomerulopathy

VI. Nervous system diseases

- Organic diseases of the central nervous system



- Spinal cord diseases
- Functional nerve diseases

VII. Endocrine pathology

- Thyroid dysfunction
- Parathyroid gland pathology
- Adrenal gland pathology
- Diabetes mellitus
- Diabetes insipidus

Bibliography

1. CÔTÉ E. (coordinator), Clinical veterinary advisor. Dogs and cats, 3rd edition, Ed. Elsevier - Mosby, 2015.
2. ETTINGER S.J., FELDMAN E.C. (coordinators), Textbook of veterinary internal medicine, , 6th edition, vol.I-II, Ed. Elsevier - Saunders, 2005.

Parasitology and parasitarian diseases

PETS

Digestive and systemic protozoan diseases in carnivores
Helminthiasis in carnivores
Diseases produced by ectoparasites in carnivores
Parasitic otitis
Main cutaneous mycoses

FARM ANIMALS

Parasitic diseases in large ruminants
Parasitic diseases in small ruminants
Parasitic diseases in horses
Parasitic diseases in swine
Parasitic diseases in birds

Reproduction

Endocrinology of reproduction in animals
Sexual cycle in domestic animals
Gestation and pathology of gestation in domestic animals
Abortions in domestic animals
Dystocia in domestic animals
Physiology and pathology of the post-partum period in domestic animals
Hormonal treatment of reproductive disorders in domestic animals



Infertility in domestic animals

Surgery and surgical pathology

1. Surgical treatment of the head and neck regions (species)
2. Surgical treatment of the abdominal area (species)
3. Surgical treatment of the thorax (species)
4. Surgical treatment of the limbs (species)
5. Local, regional and general anesthetics (species)

Bibliography

1. Liviu Ioan Oana, Cosmin Petru Pestean, Ciprian Andrei Ober - Ghid de anestezie si analgezie veterinara, 2011, Ed. Risoprint, ISBN:978-973-53-0554-3
2. Liviu Ioan Oana, Cosmin Petru Pestean, Ciprian Andrei Ober - Propedeutica chirurgicala veterinara, 2016, Ed. Risoprint, ISBN: 978-973-53-1867-3
3. Liviu Ioan Oana, Ciprian Andrei Ober, Cosmin Petru Pestean - Tehnici Chirurgicale la animale, 2012, Ed. Risoprint, ISBN: 978-973-53-0891-9
4. Beteg F., Patologie chirurgicală generală veterinară, Ed. Napoca Star, 2019
5. Theresa Welch Fossum, Small Animal Surgery, 5th Edition Mosby; 5 edition, 2018
6. Auer J.A., Stick J.A., Equine Surgery, 4th Edition, Elsevier, 2012.
7. Fubini Susan, Ducharme N, Farm Animal Surgery, 2nd Edition, Saunders, 2016