Sveučilište u Zagrebu Agronomski fakultet
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Beef nutrition (296572)

Nositelj kolegija

prof. dr. sc. Goran Kiš

Opis kolegija

Beef production is part of the livestock production sector, which makes a great diversity in production systems. This diversity refers to the different structure of the breed animals, different systems of cultivation, different quality of the final product customized preferences of consumers. In order to achieve the desired production and quality meat production must be accompanied by appropriate nutritional management, as one of the most important components of breeding beef cattle. Therefore, students in the context of this module to learn about the properties of cattle meat production, their specificities compared to other cattle production and nutritional needs of cattle for meat production. Students will learn the principles of evaluation of animal feed, and based on the natural features and the availability of food to choose the best nutritional models for a particular production. Throughout the module to handle all types and kinds of meat production by feeding breeding animals and offspring, feeding the meat production of calves to the feeding of the final category in fattening cattle. Furthermore, students will learn to independently develop the compound feed and meals for all the categories and types of production through of manual calculation and the computer program. Within the module will cover the environmental aspects of meat production, and the impact of cattle for meat production on the environment, and ways to this production through nutrition do ecologically as acceptable.

ECTS: **3.00**

E-učenje: **R1**

Sati nastave: 30
Predavanja: 22
Auditorne vježbe: 2
Laboratorijske vježbe: 4
Seminar: 2

Izvođač predavanja

- prof. dr. sc. Goran Kiš

Izvođač vježbi

- prof. dr. sc. Goran Kiš

Ocjenjivanje

Dovoljan (2): 50-59 %
Dobar (3): 60-79 %
Vrlo dobar (4): 80-89 %
Izvrstan (5): >90%

Vrsta kolegija

- Graduate studies / MS Courses taught in English (Izborni kolegij, 1. semestar, 1. godina)

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Opće kompetencije

After completion of the Module, students will be able to build independently their knowledge by using information technology, applying knowledge in practice and working independently or in a team. The aim of this module is to provide students with the knowledge, skills and competencies for independent management of the feed management in meat production of beef cattle. The choice of feed management, according to the available sources of feedstuffs with the aim of optimizing production, animal health and the economic competitiveness of the production in accordance with the desired product quality.

Oblici nastave

- Lectures
- Laboratory practice/exercises
  Calculating the nutritional requirements and nutritive value of feed for cattle in meat production. Practical calculating of compound feed and rations for cattle in meat production.
- Seminars
  The seminar related to the characteristics of feeding beef cattle. Students independently prepare a final project in which they analyze complete nutritional management in cattle meat production.

Ishodi učenja i način provjere

Ishod učenja	Način provjere
Explain special features of anatomically-physiological characteristics of cattle in meat production.	Written or oral
Identify biological role, the required amounts, signs of excess and lack of nutrients in the beef nutrition.	Written or oral
Identify the types of feed materials according to their nutrition for cattle in meat production.	Written or oral
Calculating assess the needs of beef cattle for energy, protein, amino acids, minerals and vitamins from the basic information about the animal.	Written
Calculating evaluate nutritional feeding of beef cattle.	Written
Recognize the impact of nutrition on the well-being (health), animals and the environment.	Written or oral
Create meals for cattle in meat production.	Written

Način rada

Obveze nastavnika

• Lectures and auditory exercises.
• Assistance in the preparation of seminars and possible, graduate theses.

Obveze studenta

• Participation in teaching.
• Preparation and presentation of a seminar paper.
• Design and oral exam.

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Polaganje ispita

Elementi praćenja	Maksimalno bodova ili udio u ocjeni	Bodovna skala ocjena	Ocjena	Broj sati izravne nastave	Ukupni broj sati rada prosječnog studenta	ECTS bodovi
Adoption of program content – Partial exam I	30 %	0-49 50-59 60-79 80-89 90-100	Nedovoljan (1) Dovoljan (2) Dobar (3) Vrlo dobar (4) Izvrstan (5)	12	30	0.5
Adoption of program content – Partial exam II	30 %	0-49 50-59 60-79 80-89 90-100	Nedovoljan (1) Dovoljan (2) Dobar (3) Vrlo dobar (4) Izvrstan (5)	14	30	0.5
Writing a seminar paper	10 %	0-49 50-59 60-79 80-89 90-100	Nedovoljan (1) Dovoljan (2) Dobar (3) Vrlo dobar (4) Izvrstan (5)	2	10	0.5
Final project	30 %	0-49 50-59 60-79 80-89 90-100	Nedovoljan (1) Dovoljan (2) Dobar (3) Vrlo dobar (4) Izvrstan (5)	2	20	1
Continuous attendance of lectures						0.5
Total	100 %			30	90	3

Elementi praćenja	Opis	Rok	Nadoknada
Writing a seminar paper	Seminar is conducted in groups of 2-3 students and for students is mandatory. Seminar topics are related to the feeding beef cattle, depending on the preferences of the student. After making seminar presented the theme with a public presentation during class.	Within lectures	At the regular examination periods as a final exam.
Final project	The final project performed each student individually and for the students is mandatory. The theme of the final project is the development of complete management of feeding cattle in meat production. It is expected that an independent processing threads.	The last lecture	At the regular examination periods.
Continuous attendance of lectures	Arrival of students to classes is checked and a condition for obtaining signatures and approach to the exam.	The last lecture	Not possible.

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Tjedni plan nastave

1. Anatomy and physiology of beef cattle.
2. Nutritive requirements of beef cattle; energy, fiber, vitamins.
3. Nutritive requirements of beef cattle; proteins, minerals.
4. Evaluation of feedstuffs in beef production.
5. Forages in beef production.
6. Compound feedstuffs in beef production.
7. Feeding systems in beef production on pastures.
8. Feeding systems in calves production.
9. Feeding systems in beef production.
10. Feeding systems in meat production of adult cattle.
11. Feeding systems in ecologically beef production.
12. Ecological aspects of cattle meat production
13. Preparation of nutritive strategy in cattle meat production – formulation of compound feed.
14. Preparation of nutritive strategy in cattle meat production – diet formulation.
15. Project presentation and oral exam.

Obvezna literatura

1. National Research Council (2000.):Nutrient Requirements of Beef Cattle, National Academies Press
2. T.W. Perry and M.J. Cecava (1995): Beef cattle Feeding and Nutrition, Academic Press
3. Internal Materials

Preporučena literatura

1. W. G. Pond, D. C. Church, K. R. Pond and P. A. Schoknecht (2004): Basic Animal Nutrition and Feeding, Wiley

Sličan kolegij na srodnim sveučilištima

- Aspetti pratici di gestione nell´allevamento del bovino da carne, Universita degli studi di Milano, Italy
- Beef Cattle Nutrition, University of Guelph, Canada

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