



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Silage in Animal Nutrition							
Course Code		VHB631		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	147 (<i>Hours</i>)	Theory	1	Practice	2	Laboratory	0
Objectives of the Course		Raising experts knowing importance of silage in animal nutrition, factors effecting silage production and quality.							
Course Content		Importance of silage in feeding of different animal species. Factors effecting silage production and quality. Mistakes that happens in silage production and its prevention methods.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)		Lec. Onur TATLI							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	28
Final Examination	1	12
Assignment	10	12

Recommended or Required Reading

1	Kellerns, R.O., Church, D.C. (2002) Livestock Feeds and Feeding, Prentice Hall, New Jersey.
2	McDonald, P., Edwards, R.A., Greenhalgh, J.F.D., Morgan, C.A. (2002) Animal Nutrition, Longman Scientific & Tecnical, England.
3	Pond, W.G., Church, D.C., Pond, K.R., Schoknecht, P.A. (2004) Basic Animal Nutrition and Feeding, John Wiley & Sons, New York.
4	Ensminger, M.E., Oldfield, J.E., Heinemann, W.W. (1990). Feeds and Nutrition, Second Edition, The Ensminger Publishing Company, California, USA.
5	Tisch, D. (2005) Animal Feeds, Feeding and Nutrition and Ration Evaluation, Thomson Learning.

Week	Weekly Detailed Course Contents	
1	Theoretical	Definition of silage and advantages of silage usage
2	Theoretical	Reasons for making silage. Production steps of silage.
3	Theoretical	Classification of bunkers.
4	Theoretical	Advantages of silage. Advantages and disadvantages of silage compared to grazing.
5	Theoretical	Optimum conditions for lactic acid bacteria production.
6	Theoretical	Optimum plant feeds for silage production.
7	Intermediate Exam	Midterm exam
8	Theoretical	Corn silage
9	Theoretical	Wheat silage
10	Theoretical	Barley, oat and sorghum silages. Alfalfa silage.
11	Theoretical	Microbiology of silage. Biochemical changes during silaging.
12	Theoretical	Critical control points for determining optimum place for silaging.
13	Theoretical	Silage additives
14	Theoretical	Criteria for optimum silage.
15	Theoretical	Considerations for silage feeding.
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	1	14	1	15
Lecture - Practice	15	0	2	30
Assignment	10	2	1	30



Reading	14	0	3	42
Midterm Examination	1	12	1	13
Final Examination	1	16	1	17
Total Workload (Hours)				147
[Total Workload (Hours) / 25*] = ECTS				6
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Having information about the importance of silage feeding in different animal species.
2	Knows information about silage production and factors effecting silage quality.
3	Knows information about helping to producers and alleviating economy of operation and correcting mistakes held on field.
4	Gains ability of making literature search on specific subject of area.
5	Advantages of silage. Advantages and disadvantages of silage compared to grazing.

Programme Outcomes (Animal Nutrition and Nutritional Diseases (Veterinary Medicine) Doctorate)

1	Knows information about importance of forage and concentrates in basic animal nutrition for protecting animal health in scientific and technological animal production.
2	Have ability to formulate economical and full-satisfactory rations with considering product quality and health. May inform animal producers about practical/appropriate feeding methods.
3	Can adapt to recent scientific and technological developments in animal nutrition easier and produce proper strategies against to problems on this field.
4	Knows the properties of feeds used in proper and economical rations formulated due to needs of animal species.
5	Can give information to animal producers about properties of common feedstuffs used in Turkey
6	Knows organoleptic, physical diagnostic and chemical analysis methods used in determining feed quality.
7	Have information about processing and the effects of processing on animal yield.
8	Can identify the term "feed hygiene" and have information about the usage availability of contaminated feedstuffs.
9	Can apply the informations related to feed additives in a proper way.
10	Understands the results and factors decreasing production.
11	Knows the nutrition related diseases and their solution recommendations which may be applied in feeding or formulating feeds for preventing nutritonal diseases.
12	Knows about the availability level of feedstuffs after consumed and can perform digestibility trials.
13	Knows the definition of stress, stress sources and effects on health and production level of animals.
14	Have sufficient information on classification, activation and fermentation of rumen microorganisms plus carbohydrate, lipid and protein digestibility.
15	Knows the factors effecting feed intake and negative factors in feedstuffs and prevention of them.
16	Comments on feeding behaviours and related yield parameters.
17	Have information on basic terms related to feed legislation, feeds used in animal nutrition and their legal regulations.
18	Have information about biotechnological research conducted on feeds and animal nutrition.
19	Knows the effects of nutrition on food quality, fertility, immunity and parasite enfestations.

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4
P1	5		5	
P3			5	5
P4	5	5		
P5	5	5		

