Department of Animal Resources

College of Agricultural Engineering Sciences

Salahaddin University - Erbil

Subject: Sheep & Goat production

Course Book (Year 4)

Lecturer's name: Dr. Kasim O. Aziz (Professor) & Dr. Dler A. Othman (Assist. Professor)

Academic Year: 2022/2023

Directorate of Quality Assurance and Accreditation   بەڕێوەبەرایەتی دڵنیایی جۆری و متمانەبەخشین

Course Book

1. Course name	Autumn/First Semester
2. Lecturer in charge	Dr. Kasim Omer Aziz & Dr. Dler Ali Othman
3. Department/ College	Animal Resources/ Agricultural Engineering Sciences
4. Contact	e-mail: kasim.aziz@su.edu.krd & Tel: (0750 4652234)
5. Time (in hours) per week	Theory: 2
6. Office hours	Available each day after 08:30.
7. Course code	
8. Teacher's academic profile: 1- Dr. Kasim O. Aziz	PERSONAL DATA • Date of Birth:1955 • Nationality: Iraqi-Kurdish. • Marital Status: Married. EDUCATION • B.Sc.: 1977/Agriculture-Farm Management/ Baghdad, Iraq. • Grad. Diploma: 1981/Wool & Pastoral Science/ N.S.W., Australia. • Ph.D.: 1985/Wool Technology/ N.S.W., Australia. Since 1986 I have been working as a teaching staff at the University of Mosul (6 years) & at Salahaddin University -Erbil/Iraq; involving in teaching under & post graduate students, doing researches and publishing papers (14) in the national and international Journals. Also, supervising post graduate students (5), in addition to contribution in many scientific & administrative committees. I got a full Professor degree in 2009. Further, I wrote a book and a number of scientific articles and submitted many projects to FAO Erbil Sub-Office (2001/2002) in the field of Animal production. I was given Award USA; Fulbright Visiting Scholar Program for Iraq (capacity building on best practice in Agriculture), 2011.

2- Dr. Dler A. Othman	PERSONAL DATA
	• Date of Birth: 30.1.1976
	• Nationality: Iraqi-Kurdish.
	• Marital Status: Married.
	EDUCATION
	• B.Sc.: 1999-2000/ Animal Resources- Collage of Agriculture/ University of Salahaddin - Erbil.
	• M.Sc.: Graduated M.Sc. in Animal Resources- Ruminant Nutrition (2005-2006)/ Collage of Agriculture/ University of Salahaddin - Erbil.
	• PhD Graduated PhD in Animal Resources-Sheep and Goat Production (2022)/ Collage of Agriculture/ University of Salahaddin - Erbil.
	Since 2006 until now I have been working as a teaching staff at the University of Salahaddin - Erbil/ Iraq, involving in teaching under graduate students, doing researches and publishing papers (10) in the national and Scopus national Journals in Iraq. Also, I got an assistant professor degree in 2016. Furthermore, I Distributed pellet feed for farmer in Shaqlawa 2000–2001. I worked as a Lecturer in an agricultural extension course in the field of Animal Nutrition with the ZOA organization (Holland), 2019 and 2020.
9. Keywords	Sheep& goat habits, breeds, production, reproduction, flock establishment and Intensive systems.

10. Course overview:

Sheep & goats are considered the most important farm animals since they contribute to 44.7% and 19.9% of the national income from ruminant and animal production, respectively. Consequently, they contribute to 6.4% of national income from agriculture. Their importance is further enhanced because they are adapted to the harsh environments of the country, which distinguished by shortage in green forage sources and temperature differences between winter & summer. Furthermore, sheep & goats production in our country will continue to maintain its importance in the future due to the increasing human population, and the increasing demands for meat & milk.

The number of sheep and goats were taken to decrease gradually and their productivity is low

and poor quality. Thus expose food security for more risks of future political & economic trends. Therefore, it is necessary to pay great attention and care it on according to developments of science and experience and the introduction of modern technology in the management of herds, care and production improvement.

Moreover, it is a guide for graduate who is looking for specialized knowledge and on the light of the needs of labour market in the area for improving animal production quantitatively & qualitatively, thus will contribute to the completion of the steps aim to achieve further progress in the field of animal resources in the country.

11. Course objective:
This course is to deal with principles of sheep & goat production and their applications in agricultural farms and related activates. Graduates should have the ability to:

1- Realize the economical importance of sheep and goats.
2- Know the main international and local breeds of sheep and goats.
3- Participate in the purchase and selection of flocks suitable for breeding.
4- Raise the reproductive efficiency of local animals.
5- Manage and take care of sheep and goats in order to improve production (meat, milk, wool & hair) quantitatively and qualitatively.
6- Raise the economic efficiency (Intensive production system) of these animals under various agricultural conditions.

12. Student's obligation
The role of students & their obligations throughout the academic Semester will be:
The attendance, scientific discussion, completion of all tests, exams, reports.

13. Forms of teaching
Power point & Data show, Hand out papers.

14. Assessment scheme
 - Time of exam: Quiz = 10 Minute. Monthly = 1 hour. Final = 2 hours.
- The distribution of degrees:
    Pre-final exam: 50% (15% theoretical + 35% practical) +
    Final exam: 50% (theoretical) = Final mark (100%).
- Date: 1st month exam   = 7th week.
         2nd month exam = last week of the semester.

15. Student learning outcome:
•   At the end of course graduates should be familiar with sheep and goat habits, flock establishment, management, economical importance, reproductive efficiency and meat, milk, wool & hair production. In addition to information about accelerated lambing/frequent lambing system. Further knowledge should be obtained in terms of local and main international breeds, which are specialized

in particular product. This will be a guide for graduate who is looking for specialized knowledge in terms of setting proposals and initiating projects for the development of the productivity of local sheep and goats.

- Graduates should utilize all the above knowledge to manage and take care of sheep and goats in order to improve production (meat, milk, wool & hair) quantitatively and qualitatively. Thus will be worthwhile for the future development of the growers in the region, which leads to increase the national income and consequently, to ensure food security.

16. Course Reading List and References:

1- Owen, J.B. (1976). Sheep Production. Bailliere, Tindall. London. Press Inc. London.

2- The Livestock & Grain Producer's Association of NSW (1978). Sheep   Production Guide.

   Macarthur Press, Parramatta, Australia.

3- Gall, C. (1981). Goat Production. Academic Press Inc. London.

4- Ensminger, M.E. and Parker, R.O. (1986). Sheep & Goat Science. 5th Ed. The Interstate

   Printer & Publishers, Inc. Illinois.

5- Goodwin, Derek H. (1987). Sheep Management and Production. 2nd Ed. Anchor Brendon

   Ltd. Tiptree, Essex, UK.

6- Sheep Production Handbook 2002 Edition, Vol.7. American Sheep Industry Association, Inc.

7- Sandra G. Solaiman (2010). Goat Science and Production. Blackwell Publishing. USA.

8- Alkass, J.E., Oray, K.A. and Merkhan, K.Y.(2019). Sheep Production. A University of

   Duhok Publication.

9- Aziz, Kasim O., Al-Barzinji, Yousif M.S. and Al-Rawi, Abdulrazzaq A. (2021).

   Inspiration Highlights on Future Potential of Hamdani Sheep. Salahaddin University-

   Erbil Press, Kurdistan Region-Iraq.

10- http://faostat.fao.org/site/573/default.aspx#ancor FAO Statistics.

17. The Topics:	Lecturer's name

Syllabus:
 	
Week   Course Description   Aim
 	
1 - The economic importance of sheep.   - Encouraging the development of
 	
   -World & local sheep & goat population.   Livestock (Sheep & goat).
 	
   - Some Advantages& disadvantages of
 	
     Producing Sheep.
 	
2 - Sheep position from the animal kingdom.   - Ease to study sheep & goat &
 	
   - Sheep origin & domestication.   the extent of their adaptability
 	
   - Ways of sheep classification.   to the environment.
 	
3 - Sheep habits: - Identify physiological
 	
   - Specification of sheep in comparison to goats.   characteristics that are
 	
   - Various systems in the body of the sheep.   characterized by sheep.
 	
4 - Sheep breeds: - Identify the most important
 	
   - Mutton, milk, wool & local Sheep.   traits of the phenotypic &
 	
                                  productivity of the famous breeds.
 	
5 - Flock Establishment: - Choosing suitable ewes & rams
 	
    - Breed chosen, flock size, sheep   for breeding.
 	
     buying & age degradation.   - To know renew of breeding flock.
 	
6-7 - Sheep reproduction: - Knowledge of the most important
 	
    - Reproductive efficiency, hormonal   reproductive characteristics of
 	
     control of reproduction, puberty,   Sheep & factors affecting them.
     breeding season & Synchronization.
 	
8-9 - Meat Production: - Produce product suitable for
 	
   - Growth & development in the sheep.   consumer demands.
   - Weight at different ages.   - Knowledge of biological
	Lecturer's name:
	
	Dr.Kasim O.Aziz &
	Dr. Dler Ali Othman
	
	(2 hrs)

- Sheep slaughter & carcass traits.	efficiency of the animal.	
10-11 - Milk production: - The milk production process, methods of measuring milk production, factors affecting milk production & milk systems.	- Ability to increase milk production. .	
12 - Wool production: - Functions of wool on the animal & the general properties of wool.	- Ability to increase wool production quantitatively & qualitatively.	
13 - Goat Production: - Goat origin & domestication, famous goat breeds & features.	-suggestions for the development of the productivity of local goats.	
14 - Intensive production system: - overview, how to achieve a program, examples & advantages.	- Provide local markets with lamb's meat. - Reduce the chance of disease.	
15 - Sheep Improvement: - Principles of basic genetic, parameters, genetic Improvement, selection & breeding systems.	- Enables the breeder to exploit all the potential & opportunities available to improve his animals & upgraded.	
18. Practical Topics (If there is any)		
Practical Course Book will be submitted separately.		Lecturer's name: Mr. Samer Sartep & Ms Sheren Ihsan (3 hrs)

19. Examinations:

<u>Samples of questions & answers:</u>

Q 1/ Explain/ why/justify/ Give the reason(s) for: Weight ratio of the testicles in the ram to the entire weight is more than the rest of farm animals.

A 1/ because of the very seasonal mating activity of the sheep necessitating a considerable semen output over a relatively short space of time.

Q 2/ Define/what is: breeding season.

A 2/ The period of time when the ewe is showing estrus.

Q 3/ Mention scientific name of domesticated sheep:

A 3/ *Ovis aries*

Q 4/ Chose the most correct answer for:

 The gestation period (length of pregnancy) for sheep:

   a- 123 days.   b- 201 days.   c- 147 days.

A 4/ c- 147 days.

Q 5/ complete the following:

 The aim of breeding: Southdown is -------- & ram of this breed uses --------because ---------.

A 5/Southdown is <u>meat </u>& ram of this breed uses <u>in the crossing process</u> because <u>it's lambs characterized by fast growth</u>.

20. Extra notes:

 Advice: understanding the question = half the answer.

21. Peer review