Wolayita Sodo University College of Agriculture

Department: - Animal and Range Sciences

Course title: - Meat, Hides and skins storage and processing /Year III Semester II

Course Credit- 2

Course code: - ARSc3122

Instructors Name: - Melaku Osabo

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Course objectives:

At the end of this course the students will:

- Be equipped with practices of the slaughter operation
- Be able to identify the difference between hide and skin of indigenous and exotic breed.
- Have the skill of processing and preservation methods of meat, hides and skins.
- Be equipped with the knowledge of meat, hide and skin grading.
- Have better understanding about tanning process in relation with importance of marketing and exporting of semi processed vs. finished products.

Course description:

General construction and layout abattoirs, Animal handling before slaughter,Methods of slaughter, Structure of muscle, Ante-mortem inspection, Post- mortem inspection,Meat inspection, Post mortem biochemical changes in muscle, Methods of meat processing,Methods of meat preservation, Factors affecting meat quality, Meat grading, Fish preservation techniques, Historology of hide and skins,Hide and skin processing, Factors affecting the quality of hide and skins, Preservation of hide and skin, Storage, Transport and marketing of meat, skins and hides

Course outline

Chapter 1. Introduction

1.1 Construction and layout of abattoirs

1.1.1 Building requirements

1.1.2 Facilities

Chapter 2. Animal transport and handling before slaughter

2.1. Things to consider in handling animals

2.2. Effect of pre-slaughter handling on meat and carcass quality

Chapter 3. Methods of slaughter, Facilities required for slaughtering

3.1. Methods

Chapter 4. Meat inspection

4.1. Ante-mortem inspection

4.2. Post- mortem inspection

4.3**.** Carcass judgment

4.4. Supervision of hygienic dressing of carcasses

Chapter 5. Classification of Hides and skins

5.1. Sources of Hides and skins

5.1.1. Major sources of hides and skins

5.1.2. Minor sources of hides and skins (Domesticated animal)

5.1.3. Other sources of hides and skins (None-domesticated animals)

5.2. General characteristics/Chemical composition of hides & skins

5.3. Defects in Hides and Skins (Factors affecting the quality of hides and skins)

5.3.1. Pre-slaughter defects

5.3.3. Post- slaughter defects

Chapter 6. Methods of Meat Processing and Meat Preservation

6.1. Methods of Meat Processing

6.2 .Meat Preservation

Chapter 7. Factors affecting meat quality, Meat grading

7.1. Meat product safety and quality

7.2. Carcass Defects

Chapter 8. Hides and skins processing

8.1. Pre-slaughter care

Chapter 9. Preservation of hides and skins

9.1. Principles of preservation

9.2. Types of preservation

Chapter 10. Transportation and Marketing of Hides and Skins

10.1. Storage of dry salted hides and skins
10.2. Transportation of hides and skins
10.3.Marketing of hides and skins
10.4.Constraints of hides and skins marketing
10.5. Tanning operations/Leather processing

Summary of Assessment Methods

- Quiz 5% (3week)
- Tests, Term papers 20% (3,6,8 weeks)
- Field/Practical Reports 15% (10week)
- Assignments 10% (12,13 week)
- Final Exams 50% (16 week)

References 1. Ensminger, M.E.1977. Animal Science. Seventh ed. The Interstate Printers and Publishers, Danville, Illionis.

2. ESAP (Ethiopian Society of Animal Production) proceedings.

3. ESGPIP (Ethiopian sheep and goat productivity improvement program,USAID), 2009. Common defects of sheep and goat skins in Ethiopia and their causes. Technical bulletin No,19.

4. FAO (Food and Agriculture Organization) Publications, Year Books

5. ILRI (International Livestock Research Institute) Publications

6. MORAD (Ministry of Agriculture and Rural Development), 2007.Hides and skins, Volume k.In; livestock development master plan study.

7. Neiman, S.A., and Tribe, D.E. 1992. Beef cattle production:World Animal Science, C5. Elsiver, Amsterdam.

8. Neiman, S.A., and Tribe, D.E. 1988. Meat Science, milk science and Technology: World Animal Science, B3. Elsiver, Amsterdam.

9. Peacock, C. 1996. Improving goat production in the tropics.Oxfam/ FARM Africa publication.

10. Taylor, R.E., and Field, T.G. 2004. Scientific farm animal production: An introduction to animal sciences. Eighth ed.Pearsons Prentice Hall, New Jersey.
11. Williamson, G., and Payne, W.J.A. 1978. An introduction to animal husbandry in the tropics. Third ed. Longmans, London.
10. Zeleke T., 2009. Sheep and Goat by products, In; sheep and Goat production handbook for Ethiopia,(ESGPIP).