

### Organic Livestock Production (602913 , 3 credit hrs)

Department of Animal Production  
School of Agriculture  
The University of Jordan

Instructor: Prof. M. Abu-Zanat  
Time: 8:30-10:00 M, W  
1<sup>st</sup> Semester 2020/2021

#### Course description

Historical development of organic livestock farming; differences between organic and other forms of animal production; principles and characteristics of organic animal production; management systems: conversion period, breeding, nutrition and feeding, housing, transport and slaughtering; nutritional value of organic meat and potential human health response; and challenges to organic livestock industry.

#### Course objectives

- To understand basic principles of organic livestock production
- To know the requirements for certification of organic animal production
- To gain knowledge on husbandry of organic animals.
- To know local, regional and global markets for the products of organic animals.

#### Learning outcomes

At the end of this course the student will

##### 1. Knowledge and understanding

- 1.1. Understand the difference between organic and other forms of animal production.
- 1.2. Understand the principles and characteristics of organic livestock farming.

##### 2. Intellectual, analytical and cognitive skills

- 2.1. Be able to distinguish between organic and other forms of animal production.
- 2.2. Be able to appreciate the nutritional value of products of organic livestock.

##### 3. Subject/specific and practical skills

- 3.1. Be able to practice organic livestock farming
- 3.2. Be able to follow local and international regulations related to organic livestock production

##### 4. Creativity/transferable key skills

- 4.1. Skills to provide extension services to producers of organic animals.
- 4.2. Ability to design an integrated farm for organic livestock production.

#### Course Outline

Week	Topic	References	LO
1	<b>Introduction</b> - Terminology (conventional, natural, organic) - Characteristics of organic animal production	Sundrum, 2001 Borell and Serensen, 2004	
2 & 3	<b>Historical development of organic livestock production</b> - Standards (IFOAM, Codex, EC, Jordan) - Organic market	Padel et al., 2004 Heckman, 2006 Otto, 2000	
4 & 5	<b>Principles of organic livestock production</b> - Origin of animals - Origin of feed - Disease prevention - Livestock housing - Animal welfare	Diepen, et al., 2007 Borell and Sorensen, 2004 Sundrum, 2001 Hermansen, 2003	

6 & 7	<b>Organic system plan (certification)</b> - Application for certification - Meeting requirements of organic regulations	Baker, 2005	
8-10	<b>Husbandry of organic animals</b> - Dairy - Beef - Mutton and chevon - Poultry	Vaarst et al., 2005	
11	<b>Nutritional value of organic meat and potential human health response</b> - Chemical residues - Hormones - Antibiotics - Organoleptic quality	Reksen et al., 1999	
12-13	<b>Problems in developing organic animal husbandry</b> - Lack of knowledge - Small farms - Problems in livestock feeding - Sanitary regulations - Traceability - Diseases - Lack of training and certification facilities	IFOAM Animal Husbandry Conference, 2012 Information System on Organic Livestock Farming	
14	<b>The future of organic animal's industry</b>	Pathak et al., 2003	
15	<b>Presentations of term papers</b>		
16	<b>Presentations of term papers</b>		

## References

Baker, B. 2005. Organic System Plan Overview. Organic Farming Compliance Handbook: A Resource Guide for Western Region Agricultural Professionals. Online version of the resource guide available at [http://www.sarep.ucdavis.edu/organic/compliance\\_guide/](http://www.sarep.ucdavis.edu/organic/compliance_guide/)

Borell, E. and Sorensen, T.J. 2004. Organic livestock production in Europe: aims, rules and trends with special emphasis on animal health and welfare. *Livestock Production Science*, 90(1): 3-9.

Diepen, V.P., McLean B., and Frost D. 2007. Livestock Breeds and Organic Farming Systems. *Organic Center wales, UK.*

Gomiero, T., Pimentel, D. and Paoletti, G.M. 2011. Environmental Impact of Different Agricultural Management Practices: Conventional vs. Organic Agriculture. *Critical reviews in Plant Sciences*, 30(1-2): 95-124.

Heckman, J. 2006. A history of organic farming: Transitions from Sir Albert Howard's War in the Soil to USDA National Organic Program. *Renewable Agriculture and Food Systems*, 21(3): 143-150.

Hermansen, E.J. 2003. Organic livestock production systems and appropriate development in relation to public expectations. *Livestock Production Science*, 80(1-2): 3-15.

Lampkin, N. 1997. Organic poultry production.

Mendenhall, K. 2000. The organic dairy book. NOFA-NY, Inc, USA.

Otto, S. 2000. Comparison of European Organic Livestock Standards with national and international standards - problems of common standards development and future areas of interest. *Proceedings of the Second NAHWOA Workshop*, Cordoba, M. Hovi and G. Trujillo, (eds.).

Padel, S., Otto, S. and Lund V. 2004. Organic livestock standards, Ch 4 in Animal Health and welfare in Organic Agriculture, M. Vaarst (ed.). Pages 57-72.

Pathak, K.P, Chander, M. and Biswas, K.A. 2003. Organic meat: an overview. *Asian-Aust.J. Anim. Sci.* 16(8):1230-1237.

Reksen, O., Tverdal, a. and Ropstad E. 1999. A Comparative Study of Reproductive Performance in Organic and Conventional Dairy Husbandry. *J. dairy Science*, 82: 2605-2610.

Ricke, C.S., Loo V.j.E., Johnson, G.M. and OBryan, C.A. 2012. Organic meat production and processing. Wiley Blackwell.

Sundrum, A. 2001. Organic livestock farming: A critical review. *Livestock Production Science*, 67(3): 207-215.

Vaarst, M., Padel, S., Hovi, M., Younie, D. and Sundrum, A. 2005. Sustaining animal health and food safety in European organic livestock farming. *Livestock Production Science*, 94(1-2): 61-69.

#### **Selected Books**

Nutrition and Feeding of Organic Poultry

Organic Livestock Farming: Principles, Practicalities and Profits

The Complete Guide to Organic Livestock Farming

Animal Health and Welfare in Organic Agriculture