

Principles of Animal Production and Health Management

AF 1101 (1/12:06)

**Dr. A. M. J. B. Adikari
Head and Senior Lecturer
Dept. of Animal and Food Sciences**

Course Content

- Overview of the livestock industries in Sri Lanka;
- Importance of livestock in agriculture;
- Subdivisions of livestock;
- Farm animal breeds;
- General approach to farm animal health management; Major diseases and outbreaks; Prevention of diseases;
- Domestication and classification of farm animals;
- Importance of animal genetics and its components; Farm animal - environment interaction;
- Livestock production systems;
- Techniques and equipment in animal production and health management;
- Career opportunities in animal agriculture

Suggested Readings

<http://192.248.95.7>

Evaluation Procedure

Marks Allocation (100%)

Continuous Assessment

**Theory
(End Semester Exam)**

30 %

70 %

Evaluation Procedure

1.5 hr. paper + Continuous Assessments

S. No.	Evaluation	Duration	Marks allocation
1	MCQ – 20 Q	30 min.	10%
2	Structured – 2 Q	30 min.	40%
3	Essay – 1 Q	30 min.	20%
4	Quizzes - 2	30 min. per each	10%
5	Assignment- 2	2 week	20%

Livestock

- Defined as animals raised to produce milk, meat, work and wool
- It includes,
 - Cattle (beef and dairy)
 - Buffalo
 - Swine
 - Goat / Sheep
 - Rabbit
 - Poultry (chicken, duck, turkey, geese, guinea fowl)

Domestication of farm animals

- The man's activity of taming the wild animals and to control the breeding, feeding and care of animals.
- Domesticated animals
 - To adapt animals for use by humans
 - Animals taken from nature/wild and raised under the care of humans

- Aspects of domestication
 - Tameness
 - Raising them at farm
 - To bring their growth and reproduction under man's control
 - To make use of animal's products or services for man's advantage

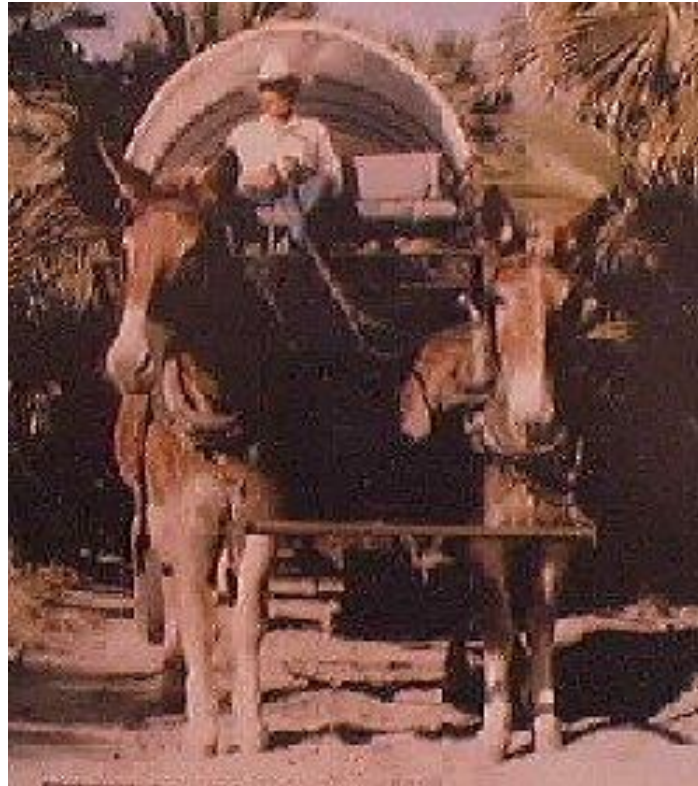
Why were animals domesticated?

- To provide a steady food supply
- To provide transportation
- To perform work
- To provide raw materials for clothing
- To increase desirable characteristics
- To provide pleasure and recreation

To Provide a Steady Food Supply



To Provide Transportation



To Perform Work



To Provide Raw Materials for Clothing



To Increase Desirable Characteristics



To Provide Pleasure and Recreation



Importance of Livestock

- Source of nutritious food
 - meat - chicken, beef, pork, mutton
 - milk – cow milk, buffalo milk, goat milk
 - eggs
- Provide raw materials for food industries
 - meat - sausage, ham, bacon, meat balls
 - milk - ice cream, yoghurt, cheese, butter
 - egg - bakery items

- Provide raw materials for apparel industry
 - wool, feather, hide, hair
- Source of energy
 - bio gas production
 - draught power – cattle, horse
 - dung – for cooking and heating

- Source of fertilizer
 - manure
- Cultural and religious significance
- Weed controlling agents
 - sheep, geese, duck
- Recreation purposes
 - for companionship and hobbies – duck, rabbit, guinea fowl
 - sports – horseback riding

- Health benefits

- Guinea pigs – in laboratory researches, as they closely resemble human in their cardiac, dental and even prenatal brain development

- Investments and savings

- Important component in integrated farming

Livestock industry in Sri Lanka

- The land area - 65,610 km²
- 30% belongs to agricultural activities
- From that - 70% is devoted to crop production
- The remainder - mixture of crops and livestock
- Small proportion of the farm land - devoted to livestock production
- In Sri Lanka, livestock sector contributes around 1.2% of national GDP

- There are about,
 - 1.1 million cattle
 - 0.3 million buffaloes
 - 0.4 million goats
 - 13 million poultry
 - 0.08 million pigs
 - negligible number of sheep, ducks and other species
- The main livestock products - milk, meat and eggs

Dairy sector

- The most important of all livestock sectors
- Local milk production only constitutes about 17 -20 % of the requirement and the rest is imported
- Milk production
 - Cattle - 80%
 - Buffalo - 20%
- The estimated annual milk production in the country is 350 million liters and is produced in all the districts

Poultry sector

- About 70% of the contribution to livestock sub-sector comes from chicken meat and eggs
- Poultry belt : Western & North Western province
 - Transport and marketing facilities
 - Availability of land
 - Increased consumption
- Current per capita availability of chicken meat and eggs estimated to be 4.8 kg and 57 eggs, respectively

Goat industry

- A traditional form of livestock production
- About 75% of goat population - located in the dry and intermediate zones
- Practiced as an extensive/free range production system
- Goats - primarily for meat
- Goat milk is becoming popular for it's health benefits

Swine industry

- Concentrated in the costal belt of Western and Northwestern provinces
- Extensive, semi-intensive and intensive management systems
- Annual pork production is estimated to be around 9,500 MT
- Pork contributes about 1% to the livestock component of the GDP
- Lack of market development and diversification is a major constraint for industry expansion

Institutional support

- **Department of Animal Production and Health (DAPH)**
 - Technical leadership on many aspects of livestock development - research, extension, animal health management and breeding services
 - Principal state organization functioning under the Ministry of Livestock Development

- **National Livestock Development Board (NLDB)**
- Statutory board under the Ministry of Livestock Development
- Responsible for maintaining nucleus herds of livestock species and supplying improved livestock animals
- Engaged in the promotion of liquid milk by establishing fresh milk outlets at strategic locations

- **Milco (Pvt) Ltd.**
 - A subsidiary company owned by the government, coming under Ministry of Livestock Development
 - Engaged in milk collection, processing and marketing of processed dairy products
 - Hold a market share of about 54% of total milk collected in the formal market
 - Milk collection is done by nearly 2,000 Farmer Managed Societies (FMSs)

- **Nestle' Lanka Ltd.**
 - Private sector agencies involved in livestock activities
 - Second largest milk processor next to Milco (Pvt) Ltd.
 - Engaged in producing a wide variety of dairy products

- **Kotmale Dairy Products**
- **Lucky Lanka Dairies (Pvt) Ltd**
- **Lanka Milk Foods (Pvt) Ltd**
- **Fonterra Brands (Pvt) Ltd**
- other players of sizeable milk processing engagement