

25. LIVESTOCK PRODUCTION AND MANAGEMENT

Unit 1: General

Present status and future prospects of livestock and poultry development in India. Animal production systems in different agro-climatic zones of the country. Sustainability issue in relation to environment. Effect of industrialization and mechanization of agriculture on livestock sector. Breeds of cattle, buffalo, sheep, goat, pigs, equine, camels, rabbits and poultry. Various livestock and poultry development programmes operative in the country. Animal behaviour vis-à-vis adaptation and production. Principles of domestication and behavioral factors favouring domestication. Mating behaviour in various species of livestock and poultry. Agnostic behaviour – causes and control. Social order in farm animals. Adaptation of livestock and poultry in tropics, deserts cold and high altitudes. Mixed farming, arable farming, integrated and specialized farming systems. Biotechnology in animal improvement.

Unit 2: Breeding Management

Basic principles of inheritance. Concept of heritability, repeatability and selection. Important methods of selection and systems of breeding in farm animals and birds. Importance of maintaining breeding records and their scientific interpretation.

Unit 3: Feeding Management

Nutrients and their functions. Nutritional requirements and feeding managements of different categories of livestock and poultry. Feed additives including antibiotic and probiotic feeding in farm animals and birds. Formulation and compounding of rations for various categories of livestock and poultry. Least cost ration formulation. Systems of feeding livestock and birds. Feeding standards for livestock and poultry. Feed conversion efficiency of various categories of livestock and poultry. Processing and storage of conventional and non-conventional feed ingredients. Agro-industrial by-products in animal feeds.

Unit 4: Reproduction Management

Reproductive systems of farm animals and birds. Climate and nutrition affecting reproductive performance in farm animals. Importance of early pregnancy diagnosis. Methods of heat detection. Artificial insemination. Oestrous prediction and synchronization. Causes of disturbed fertility and its prevention in farm animals. Management factors affecting reproductive efficiency. Summer and winter management problems and their solutions.

Unit 5: Shelter Management

Housing systems, Selection of site and lay out of animal and poultry houses. Space requirement for livestock and poultry, Housing designs in different agro-climatic regions. Macro and micro-climatic changes affecting designs of animal and poultry houses. BIS (standards) for livestock and poultry housing. Construction of cheap animal and poultry housing utilizing local resources. Automation in livestock farming. Disposal of animal wastes under urban and rural conditions. Disposal of carcasses.

Unit 6: Health Management

General approach to livestock health programmes. Prevention of diseases. Hygiene and sanitation on animal farm. Symptoms of ill health, important infectious diseases of livestock and poultry and their control. Vaccination schedules in animals and

poultry. Internal and external parasites and their control. Accidental health disorders and their control. Common disinfectants used on animal farms. Concept of first aid at farms. Segregation and quarantine management for large animals and birds. Quarantine Act, Zoonotic diseases, labour health programme.

Unit 7: Production and Management of Cattle and Buffalo

Cattle and buffalo production trends and factors affecting them. Prenatal and postnatal care and management of cattle and buffalo. Care of neonates and young calves. Management strategies for reducing mortality in calves, age at first calving, and calving intervals. Management to improve reproductive efficiency in cattle and buffalo. Feed conversion efficiency for growth and milk production. Water requirement of dairy animals. Herd registration.

Unit 8: Production and Management of other Animals

Draft animals: Population dynamics of various categories of draft and work animals in India. Characteristics of draft animals. Estimating draft capacity of different species. Harness for various types of draft animals. Training of work animals. Feeding, care and management of draft animals. Management of camel with special reference to rearing, feeding and watering. Behavioural studies of various draft animals. Economics of draft animals *vis-à-vis* machine power.

Sheep and goat: Selection of breeds and breeding systems for improving wool, mohair, meat and milk. Feeding practices for economic rearing. Scope of intensive milk and meat production from goat. Mutton and wool production from sheep. Low cost shelter management. Sheep and goat reproduction. Health management.

Poultry: Brooding of chicks. Management of growing, laying and breeding flocks. Shelter management. Biosecurity and environmental considerations. Cage layer management and well being of birds. Light management. Hatchery business management. Management during stress. Chick sexing. Maintenance of farm records. Health and sanitation problems. Prevention and disease control. Poultry shows. Handling care of table eggs and processing of birds for meat.

Equine: Care and management of horses, feeding and breeding systems, shelter management, shoeing, preparation and management of race horses.

Swine: Importance of pig as a meat animal. Selection of breeds and breeding systems for improving pig production. Feeding strategies for pigs. Care and Management of pregnant sows and unweaned piglets. Reproduction problems in pigs and remedial measures.

Rabbit: Economic importance. Important fur and meat type breeds. Housing, handling, feeding, watering, breeding, management, sanitation and health care of rabbits.

Unit 9: Wildlife Management

Status of wildlife in India and its conservation. Biological and ecological basis of management of wildlife. Breeding and feeding of wildlife in captivity. Health management.

Unit 10: Forage Production and Conservation

Classification of feeds and forages. Feed and fodder resources used for feeding of livestock and poultry. Nutritive value of feeds and fodders. Conservation and

preservation of feeds and fodders. Annual and perennial fodder crops. Strategies for round the year fodder production. Pasture development and management. Enrichment of poor quality roughages.

Unit 11: Economics and Marketing of Livestock and Poultry and their Products

Economic principles as applied to livestock production. Production functions. Farm size, resources and product combinations. Cost concepts. Effect criteria in use of resources in livestock production. Maintenance of evaluation of different production records. Insurance and financing of livestock enterprises. Project formulation for setting up livestock farms. Different approaches to marketing of livestock and its products. Present status of cattle fairs and methods of selling livestock. Market news and information. Determination of prices of livestock products. Vertical integration in livestock products industries.

The following information is for your information only and should not be used for any other purpose. It is provided for your information only and should not be used for any other purpose. It is provided for your information only and should not be used for any other purpose.