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UNIT. HEALTH MANAGEMENT

Sub-topic 1: Introduction of Animal diseases and Vaccination schedule

By

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Disease: means any deviation from the normal state of health.

Health: denotes physical, physiological and mental wellbeing of an individual.

CLASSIFICATION OF DISEASES-

Disease may be classified in various ways, such as:

1. **According to causes of diseases**
   - **A. Specific Diseases—** caused by specific pathogen/ factor.
     - **a) Infectious diseases:**
       - **i.** ***Viral diseases:*** Foot and Mouth disease (FMD), Rinderpest, Rabies, Swine fever.
       - **ii.** ***Bacterial Disease:*** Haemorrhagic Septicemia (HS), Black Quarter (BQ), Tuberculosis, Anthrax.
       - **iii.** ***Protozoan disease:*** Surra, Theileriosis, Maleria, Coccidiosis.

     b) Non-infectious diseases: These diseases are caused by nutritional deficiency, altered metabolism, physical or chemical or poisonous agents. e.g.

       - i. ***Deficiency disease:*** Rickets, Pica, Osteomalacia.
       - ii. ***Metabolic disease:*** Milk Fever
       - iii. ***Poisoning:*** Pesticide poisoning

   - **B. Non-specific diseases:** Colic, Bloat, Abscess, Diarrhoea.

2. **According to mode of origin**
   - **A. Hereditary diseases:** transmitted from parents too offspring. e.g., Haemophilia.
   - **B. Congenital diseases:** acquired during pregnancy (intra-uterine life) e.g., TB
   - **C. Acquired diseases:** acquired after birth.

3. **According to duration and severity**
   - **A. Per-acute disease-** this is characterized by very short course and severe symptoms. e.g., Anthrax

B. **Acute disease:** this is characterized by a sudden onset, short course (3-14 days) and severe symptom. e.g. Black Quarter, Hemorrhagic Septicemia

C. **Chronic disease:** Whose course is more than 4 weeks and sign not severe in character. e.g. Tuberculosis.

4. **According to area of spread:**

A. **Sporadic disease:** affected one or two animals and shows little or no tendency to spread within the herd. e.g. Johnne's disease.

B. **Endemic disease:** means an outbreak of disease among animals in a definite area or particular district. e.g. Anthrax, HS.

C. **Epidemic disease:** which affects a large popular of animals in large area at the same time and spreads with rapidity. e.g. FMD, Render pest.

D. **Pandemic disease:** is a widespread epidemic disease usually of worldwide distribution. e.g. Influenza, Covid-19.

E. **Zoonotic disease:** a diseases which can be transmitted from animals to man and vice versa. e.g. Anthrax, Brucellosis.

Health Care Management:

- Identifying a sick animals and isolation of infected animals.
- Timely treatment of animals leading to better animal health, productivity and less morbidity and motility.
- Disposal of dead animals either by burning or deep burial.
- Slaughter of animals suffering from incurable disease.
- Destroy contaminated fodder by burning.
- Proper disposal of contaminated water.
- Regular disinfection of cattle shed and its premises with 1-2 % phenyl.
- Don't allow grazing in affected area.
- Restrict the movement of animals from affected to clean area.
- Don't allow animals to drink water from ponds, rivers etc. during outbreak of disease.
- Close animal markets, cattle shows etc. during outbreak of disease.
- Regular spraying of insecticide to control external parasites.
- Regular deworming to control internal parasites.

- Provide adequate ventilation and sunlight.
- Provide ample fresh and clean water.
- Avoid overcrowding.
- Keep the animal house clean and dry.
- Give enough exercise to animals.
- Inadequancy of veterinary facility for livestock in dairy farm/ rural areas.

IMMUNITY

Immunity- It is the capacity or ability of animal body to resist infection.

Antigen- A substance which stimulates formation of specific antibodies.

Antibodies- A substance developed or synthesized in the animal body against an antigen.

Vaccine: The vaccines are the antigens, which produce antibodies against a particular disease and protect them through out the life, if their proper schedule is followed. The antigen should not be pathogenic to the host and should only produce antibodies against a particular disease.

TABLE FOR VACCINATION SCHEDULES

Cattle and Buffaloes

Disease	Vaccine	Dose	Route	Remarks
Haemorrhagic septicaemia (HS)	- Alum-precipitated - Oil adjuvant	5 ml 3 ml	S/C Deep I/M	1st Vaccination at six months of age, thereafter at every six month (May/June and Oct/Nov)
Foot and Mouth Disease (FMD)	- Aluminium hydroxide gel FMD vaccine	5 ml	S/C	-1st time at 3 months of age, booster at 9 months, then every six months.
Brucellosis	B. abortus strain-19 vaccine	5 ml	S/C	Once in a life time in female calves at 4-6 month age.
Black Quarter	BQ vaccine	5 ml	S/C	Before rainy season, once a year.
Anthrax	Anthrax vaccine	1 ml	S/C	Annually in endemic area.
Theleriosis	Rakshavac – T vaccine	3 ml	S/C	1st vaccination at 2 month and above, repeat after every 3 yrs
Infectious Bovine Rhinotrachitis	Ibrivax inactivated bovine herpes with oil adjuvant	2 ml	S/C	1st vaccination at 4-6 wk, booster 3 month later and repeat annually.

Sheep and Goat

Disease	Vaccine	Dose	Route	Remarks
Sheep pox	Sheep pox attenuated vaccine	1 ml	S/C	Lamb above 3 month of Oct/Nov and repeat annually
Enterotoxemia (ET)	ET vaccine	2.5 ml	S/C	Lambs above 3 months of age in the month of May and repeat annually. Booster dose 15 days after every primary and regular dose.
Peste de Pedits Rumenants (PPR)	PPR live attenuated tissue culture vaccine	1 ml	S/C	1st vaccination 3 months of age, repeat after every 3 years.
Anthrax	Anthrax vaccine	1 ml	S/C	Annually in endemic area.
H.S.	Alum ppt	2.5 ml		1st Vaccination at six months of age, thereafter at every six month (May/June and Oct/Nov)
Black Quarter	B.Q. vaccine	2.5 ml	S/C	Before rainy season, once a year.
Goat pox	Goat pox vaccine	1 ml	S/C	1st vaccine at 3 months, annually in Nov.

Reference:

1. Bikane AU, Handbook for Veterinary clinicians (Third edition). Krishna publications.
2. Chandolia et al., (2010). Preliminary Veterinary Handbook. COVS, CCSHAU Hisar.