Large Ruminant Health

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Different Causes of Diseases in Cattle and Buffalo

1. Infectious
   - Virus, Bacteria, (Fungus)

2. Parasites
   - Internal Parasites (intestinal Worms, Liver Fluke, blood parasites)
   - External Parasites (Ticks, Flies, Lice)

3. Metabolic-Deficiency

4. Poisoning
   - Chemicals, Plants

Consequences of disease in cattle and buffalo

- Sub-clinical disease (no disease signs)
- Illness then recovery & immunity (i.e. FMD)
- Illness and then death (i.e. HS)
- Possible disease in humans (i.e. anthrax, rabies)

For farmer: PRODUCTION LOSS
              INCOME LOSS

Infectious diseases

- Caused by virus or bacteria
  - Example: FMD (Virus); HS (bacteria)
- Virus and Bacteria multiply quickly and spread from animal to animal
  - Many animals in herd or village get infected quickly
- Can be prevented by vaccination
- Treatment difficult
  - Only medication for bacteria-no medication for virus
  - Expensive (many animals)
  - Often too late
**Foot & Mouth Disease**

- Caused by FMD virus
- Spreads very quickly
- Infects cattle, buffalo, goats, pigs
- Causes sores in mouth, on feet and udder

**Foot and Mouth Disease (2)**

- Production losses (draught power)
- Blood samples for diagnosis
- Can be prevented by vaccination every 6-12 months and
- Not introducing unvaccinated cattle or buffalo into a village

**Haemorrhagic Septicaemia (HS)**

- Caused by bacteria
- Spreads quickly
- Outbreaks often at start of rainy season
- Causes respiratory symptoms, swelling of neck area and death (death often the only thing noticed by farmers)

**Haemorrhagic Septicaemia (2)**

- Many deaths = big production losses for farmers
- Blood sample for diagnosis
- Prevent with vaccination every 6-12 months
- Treat with long acting antibiotic (Oxytetracycline)
Parasitic diseases

- Caused by internal or external parasites
- Parasites multiply through complicated life cycles, often involving different hosts

Eggs passed in environment → Larval stages invade host/s → Adult parasites in host lay eggs → Immature parasites invade host/s → Adult and immature parasites can cause illness in cattle or buffalo

Parasitic Diseases (continued)

- Parasitic diseases can affect many cattle and buffalo in a herd
- Spread slower than infectious diseases
- Can be treated (anti-parasitic medication) and prevented (interrupt parasite life cycle)

Best practice for parasite control is combination of treatment and prevention

Liver Fluke

- Causes liver damage, weight loss and some deaths
- Diagnosis at post mortem or faecal sample
- Can be treated with medication that kills flukes (triclabendazole)
- Can be prevented by keeping cattle/buffalo away from areas where snails live
**Toxacara**

- Round worm in small intestines of calves
- Adult animals have immature worms in liver, and udder (no disease signs)
- Calves get infected with immature worms when suckling milk from mother
- Calves with toxacara are skinny and many die = big production loss

**Stomach Fluke (Paramphistome)**

- Significance for Cambodia ????
- Similar live cycle as liver fluke
- Several species (eggs look identical)
- Adult parasites live in rumen, reticulum (bile duct and pancreas)

**Toxacara (2)**

- Lab test on faecal sample for diagnosis
- Treat calves with anti-parasitic medication when 14-21 days old

**Stomach Fluke**

- Often no clinical signs
- Can cause loss of appetite, diarrhoea, weight loss, poor body condition.
- Diagnosis at post mortem or from faecal samples
- Treatment with anti-parasitic medication (Oxiclosan)
Questions?