Rabbit diseases as a production Constraint in Kenya

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• Rabbit production is now one of the fastest growing livestock enterprises in the world.
• Highly prolific, early maturity, fast growth rate, high genetic selection potential, efficiency in feed conversion and economic utilization of space (Lukefahr & Cheek, 1990)
• Rabbit meat is white, fine grained, palatable, mild flavored, high in good quality protein content, low fat and caloric contents, contains a higher percent of minerals than other meats
Introduction....

- Diseases of rabbits in Nairobi have increased tremendously by the year 2010 Aleri et al., (2012)
- Reasons: Knowledge gap, inadequate connection between field diagnoses and confirmatory laboratory diagnoses (Borter et al., 2010).
Introduction...

- Limitations (Serem et al, 2012)

- NOMKT = lack of market both for rabbits and rabbit meat.
- INADHUSBKN = insufficient knowledge on rabbit husbandry practices,
- POORBREED = poor breeding stocks,
- INADFUNDS = lack of funds to expand rabbit enterprises,
- INADFEED = inadequate commercial feeds in the market,
- UNKNAHOFF = Animal health officers are un knowledgeable of rabbit diseases and treatment,
- UNAWARPOP = the Kenyan population is un aware of the benefits of rabbit meat,
- NOVETDRUG = no veterinary drug specific for rabbits and
- NOHUTCHPL = lack of proper hutch plans
Diseases

- Gastrointestinal
- Respiratory
- Skin
- Reproductive,
- Metabolic and nutritional diseases and disorders
MATERIAL AND METHODS

- Visits to sixty one rabbit farms in six counties
- Questionnaires, post mortem on dead rabbits, laboratory analysis of samples collected and isolation of causative agents.
RESULTS

- Gastrointestinal: 65.57
- Skin: 27.87
- Eye, ears, and mouth: 27.87
- Miscellaneous conditions: 22.95
- Respiratory: 11.48
- Musculoskeletal: 8.2
Disease prevalence by age

- **Gastro-intestinal**
  - Weaners (1-5)
  - Growers (6-24)
  - Adults (>24)

- **Skin**
  - Weaners (1-5)
  - Growers (6-24)
  - Adults (>24)

- **Eye, ears and mouth**
  - Weaners (1-5)
  - Growers (6-24)
  - Adults (>24)

- **Respiratory system**
  - Weaners (1-5)
  - Growers (6-24)
  - Adults (>24)

- **Musculoskeletal**
  - Weaners (1-5)
  - Growers (6-24)
  - Adults (>24)

- **Miscellaneous conditions**
  - Weaners (1-5)
  - Growers (6-24)
  - Adults (>24)
• Intestinal Coccidiosis
   *Eimeria* spp.
   Clinically:
   - Diarrhea, bloating, **nervous signs** just before death, found dead.
   young rabbits (from day 21-3 months)
- **Prophylaxis**
  - hygiene ???
  - Medical-
    - decoquinate, diclazuril, toltrazuril.
Treatment - sulphur drugs
   - at 3 weeks for 4 days every 4 weeks till 3 months
Vaccination??? Under trial
Intestinal Coccidiosis

Severe congestion

Enteritis
Hepatic coccidiosis

- **Clinically**: None to non-specific
  Anorexia, debilitation, constipation or diarrhea,

  **Pm**: Multi-focal whitish yellowish nodules on the liver surface

- Control similar to intestinal coccidiosis
Mucoid Enteropathy

- Multifactorial; bacteria, toxins, dietary irregularity, obstruction
- Common between 7-10 weeks also 5-20 weeks
- Clinically: bloat, mucoid fecal material, history of change in feed
- Treatment: withdraw feed, sulphonamide

Control: provide fiber, anti *E. coli.* in feed (Colimycin, tetracycline, furazolidone)
withdraw feed
*Sulphonamides in water*
Mucoid Enteropathy

Gastric ulcers due to toxins in the feed

- gelatinous mucoid content in ceacum
Bloat

- Abdominal distension, diarrhea
- Death
- Control:
  - wilt forages
Treatment:
Not very successful
Withdraw feed
Give only hay
Bacterial conditions

- *Escherichia coli, clostridiosis and Salmonella spp*

  Clinically: Peracute form: death, with little or no signs. Chronic: anorexia, wasting and intermittent diarrhea over several days.

  Watery green to tarry brown feces; straw colored peritoneal effusion; ecchymoses in the cecal serosa.
Bacterial conditions

- Collibacillosis

  Control; hygiene
  Avoid stress.
  Extreme cold, high temperatures
  Treatment:
  Sulphonamides
  Multivitamins
Pinworms

- Not very pathogenic
- May cause obstruction and death when severe
- Clinically visible in ceacum
- Treatment:
  - Piperazine
  - fenbendazole
Skin conditions

Localized mange

- Clinically: alopecia, scratching, around the nose, paws
- Etiology: *Sarcoptes scabiei* mites
- Treatment: Avermectin group (Ivermectin, Doramectin, Selamectin)
- Control: dusting cages with acaricides
Skin conditions

Generalised/fur mange

Etiology: *Cheyletiella parasitivorax* (Fur Mites)

- Generalized alopecia (dorsal trunk and scapular areas)
- Loss of condition
- Bald patches
- Rarely no scratching
- Treatment & control: similar sarcoptes
Sub-cutaneous abscesses
Sub-cutaneous abscesses....

- **Etiology:** bacterial (*Staphylococcus aureus, Pasteurella spp, Streptococcus spp, Pseudomonas aeruginosa*)
- **Treatment:** Draining and cleaning the abscesses
- **Injectible Penicillin,** not very successful
- **Control:** cleaning and disinfection of cages and materials after outbreaks (Omnicide)
- **800 mg tetracycline HCl (Hydrochloride) per kg feed** over a 7-day period have been reported to reduce mortalities temporarily
Diseases affecting the eye, ears and mouth

- **Conjunctivitis**
- **Ear canker**
- Scabs, crusts, discharges
- Treatment: Avermectin group (Ivermectin, Doramectin, Selamectin)
- Mineral oil ??? temporary
Ear canker
Encephalitozoonosis (Nosematosis)

Etiology: *Encephalitozoon cuniculi*
Clinically: Asymptomatic, nervous signs
  gross: indented grey areas on the cortical surface
Treatment: antiparasitics (fenbendazole, albendazoles)
Control: regular disinfection
Diseases affecting the respiratory system

Pneumonia
clinically: chronic snuffles, purulent conjunctivitis, localized abscesses, respiratory difficulty, infertility and sudden death

Etiology: Pasteurella, Pseudomonas, Stap hylococcus

Control:
Stress free (cold, weather changes)
Good ventilation
prophylactic antibiotic therapy & multivitamins

Antibiotics: (suphonamides) early stages.
Miscellaneous conditions

- Splay legs
- Emaciation
- Nephritis
- Trichophagy
- Cannibalism
- Fight wounds
Conclusions

- Diseases/conditions which cause morbidity and mortalities in domestic rabbit are those affecting the gastrointestinal, skin and the ears.
- Enteritis and emaciation are the prevalent conditions affecting domestic rabbits with a prevalence of 29.51% and 14.75% respectively.
- Coccidia counts per gram of feces were unsatisfactory (> 2000 OPG) in 68% of the farms.
References