

Rabbit diseases as a production Constraint in Kenya



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Introduction....



- 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

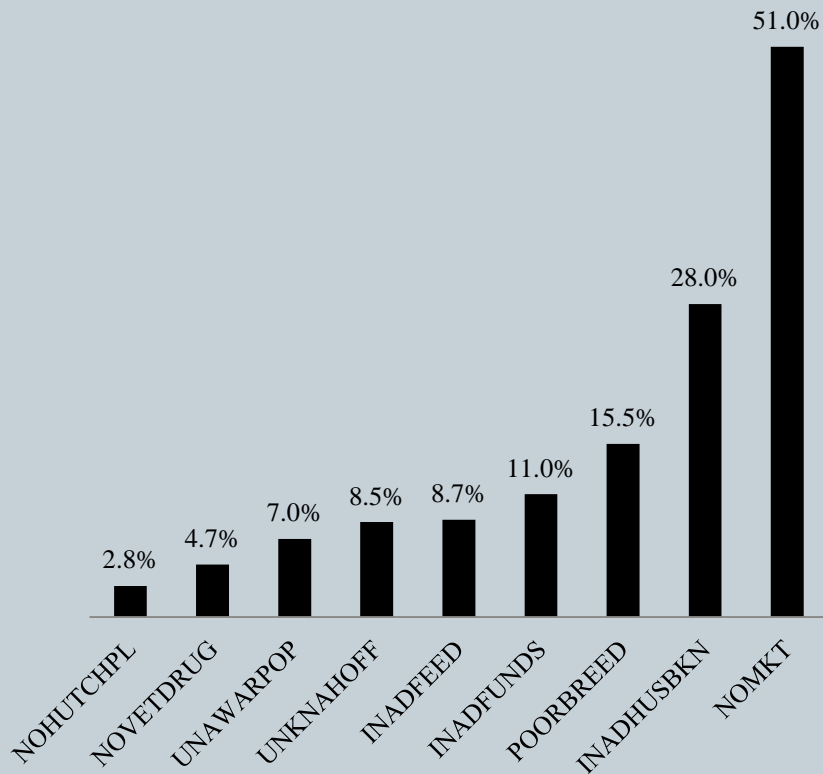
Introduction....



- 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**=In adequate 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**
- **Miscellaneous conditions.** (Martino and Luzi, 2008, Cooper 1973).

MATERIAL AND METHODS

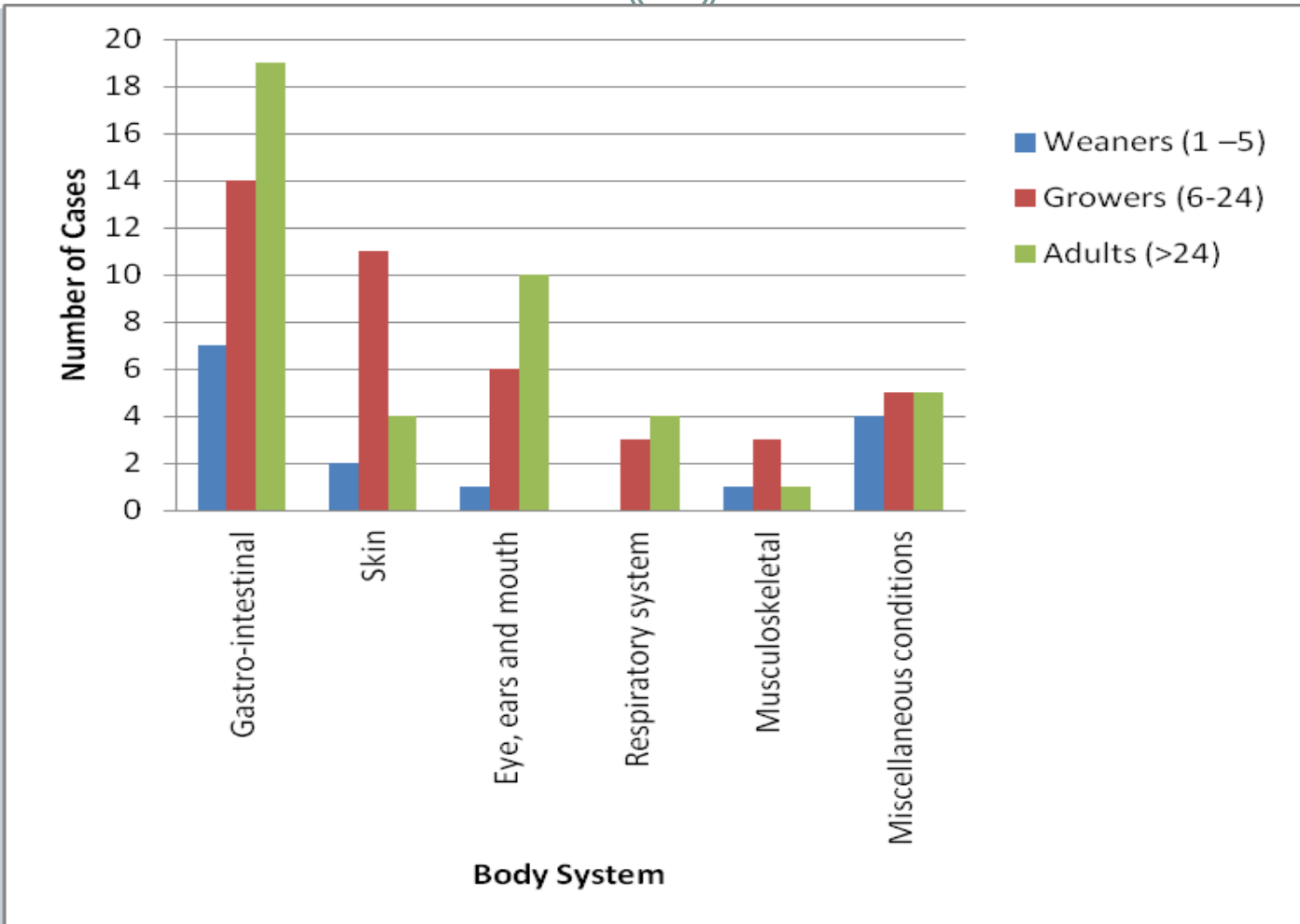


- Visits to sixty one rabbit farms in six counties
- Questionnaires, post mortem on dead rabbits, laboratory analysis of samples collected and isolation of causative agents.

RESULTS



Disease prevalence by age



Gastrointestinal ..conditions

- **Intestinal Coccidiosis**

Eimeria spps.

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

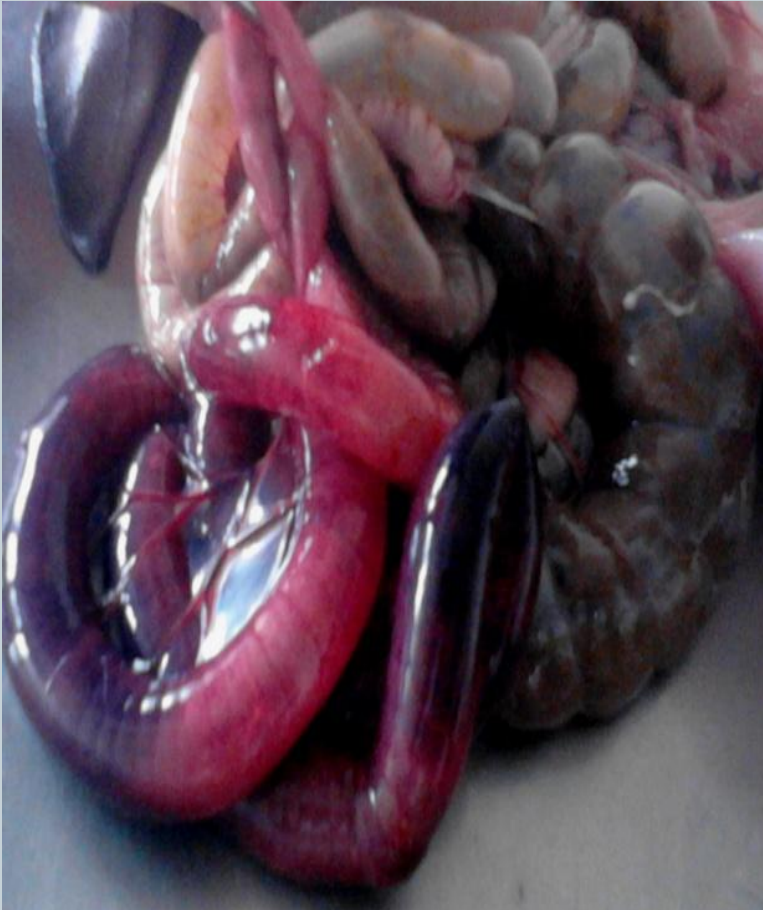
at 3 weeks for 4 days every 4
weeks till 3 months

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



Muroid Enteropathy

- Multifactorial; bacteria, toxins, dietary irregularity, obstruction
- Common between 7-10 weeks also 5-20 weeks
- Clinically: bloat, muroid 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

Muroid Enteropathy

Gastric ulcers due to toxins
in the feed

- gelatinous muroid 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 parasitovorax* (**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*s, *Streptococcus spp*s, *Pseudomonas aeroginosa*)
- Treatment: Draining and cleaning the abscesses
- Injectable Penicillin, **not very suscessful**
- 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,
Staphylococcus*

Control:

Stress free (cold, weather changes)

Good ventilation

prophylactic antibiotic therapy &
multivitamins

Antibiotics: (sulfonamides) early
stages.



Miscellaneous conditions

Splay leg

- 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

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