

WHAT IS NECROTIC ENTERITIS (NE)?

Necrotic Enteritis (NE), is a notable disease in the poultry industry which is caused by *Clostridium perfringens*.

Clostridium perfringens is a gram positive, spore forming, anaerobic organism which is normally present in healthy chicken's hindgut in small numbers. The acidic pH and oxygen content of a healthy small intestine do not support the growth of this organism. This organism is also found in soil, dust, feces, feed, poultry litter and intestinal contents.

NORMAL:



Intestinal / Fecal droppings



Cecal droppings



Coccidiosis with NE

EXTERNAL WARNING SIGNS OF NECROTIC ENTERITIS:



Dullness and depression



Sticky droppings



Pododermatitis caused by wet litter



Clostridial enteritis droppings create a clear, limited fluid zone; may appear frothy, foamy or contain orange color mucus

ALSO:

- Increased water intake
- Ruffled feathers
- Off feed
- Huddling
- Diarrhoea
- Growth depression



INSPIRED MOLECULAR SOLUTIONS™



INTERNAL WARNING SIGNS OF NECROTIC ENTERITIS:

LESIONS: Gross lesions are seen in jejunum, duodenum and ileum. Gas filled, ballooning of intestines are commonly seen in NE.



GROSS LESIONS SCORE 1 - 4 based on severity.

A score of 0 is given for the normal intestine which has the tonicity

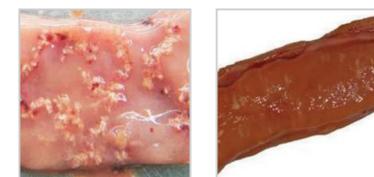
1 - MILD

Thin and flaccid intestinal wall (intestine remains flat when opened and does not roll back into normal position); thickened mucus (orange), covering the mucus membrane being opened. No loss of mucosa; mild reddening or congestion of serosal blood vessels



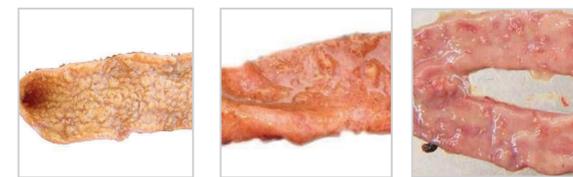
2 - MODERATE

Noticeable reddening and swelling of the intestinal wall; minor ulceration and necrosis of the intestine membrane; excess mucus



3 - SEVERE

Extensive area of necrosis and ulceration of the small intestine membrane; significant hemorrhage, layer of fibrin and necrotic debris on the mucus membrane (Turkish towel appearance)



4 - MORTALITY

Dead or moribund bird (bird that would likely die within 24 hours). Classical lesion of Necrotic enteritis. The entire mucosa is covered with thin layer of fibrin and necrotic debris.



DIFFERENTIAL DIAGNOSIS

SNO	Coccidiosis	Necrotic Enteritis
1	Caused by protozoa by name <i>Eimeria sp.</i> More than 6 species of <i>Eimeria</i> cause the disease	Caused by anaerobic, toxin producing bacteria - <i>Clostridium perfringens</i>
2	Found in an ubiquitous manner	Found in feces, soil, dust, contaminated feed and litter
3	Not a normal inhabitant of gut	Normal inhabitant of hind gut
4	Infection only as a result of ingestion of coccidian oocyst.	Intestinal tissue damage helps in colonization by this pathogen
5	Causes immunosuppression	Not an immunosuppressive disease
6	Coccidiosis predisposes the birds to NE.	NE is not a predisposing cause
7	Droppings contain free coagulated blood	Droppings watery, orange color. More liquid zone in the droppings
8	Gross lesions seen throughout the intestine	Gross lesions usually confined to small intestine, primarily jejunum
9	Hemorrhages free blood in the intestine	Intestines are friable and distended with gas; Turkish towel appearance
10	Liver is not involved	Liver is involved
11	Breast muscle is pale in color	Breast muscle is congested and dark red
12	Threat of coccidiosis is less during hot dry weather and greater in cooler damp weather & with poor litter management	Threat of Necrotic Enteritis is throughout the year
13	Self-limiting disease	Not a self-limiting disease

CLOSTAT™ The Active Microbial for a Natural Solution

CLOSTAT™ has targeted activity against *Clostridium perfringens*, *Clostridium septicum*, *Clostridium difficile*.

CLOSTAT™ helps maintain a balanced gastrointestinal tract, allowing more effective nutrient absorption.

CLOSTAT™ improves profit margins through improvement of litter quality, body weight gain, feed conversion, and decreases in foot pad lesions, and overall mortality.

CLOSTAT™ is compatible with commonly used feed additives.