# *Ostertagia ostertagi*

## Answers

# Primary GINs

**Matching:** Match each parasite with its associated characteristic.

__D_ **1.** A primary GastroIntestinal Nematode

__C_ **2.** Brown Stomach Worm

__C_ **3.** Most economically important helminth of Cattle

__D_ **4.** Pasture-borne Parasite

__C_ **5.** Causes a disease of calves & young cattle

**A.** *Haemonchus contortus*

**B.** Small Strongyles

**C.** *Ostertagia ostertagi*

**D.** All the above (A, B, C)

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**True or False**

___True__ : Acquired Immunity is an important advantage for cattle against GINs, allowing cattle over 2 years old to suffer little to no pathology caused by *Ostertagia ostertagi*.

__True___ : Currently, another advantage for the management of *Ostertagia ostertagi*, is that dewormer resistance has not been reported for *O. ostertagi*.

# *Ostertagia ostertagi*

## Pathology & Clinical Signs

**Check box:** Check the Boxes that apply to the Pathology & Clinical Signs of **Ostertagiasis**.

- [x] dysfunction of the gastric (abomasal) mucosa leading to increased pH; the interruption of digestion, causing a negative nitrogen balance and a systemic increase in protein catabolism.
- [ ] Acute Anemia and Death
- [x] Anorexia, Weight-loss, Stunted Growth
- [x] Calves during their 1st & 2nd grazing seasons
- [ ] Severe colic with potential aortic aneurysm
- [x] Hypoproteinemia with bottle-jaw & edema
- [x] Profuse & Persistent Watery Diarrhea
- [ ] Calves with an excessive respiratory rate, frequent coughing, crepitation, harsh bronchial sounds, & air hunger.
- [x] Abomasum with Moroccan Leather appearance at necropsy.

# Ostertagiasis
# Type I v/s Type II

**Matching:** Match each Type of Ostertagiasis with its associated characteristic.

__C_ **1.** The primary cause of pathology is growth, development, and emergence of L4 larvae in the gastric glands.

__B_ **2.** Low Morbidity, High Mortality

__A_ **3.** L4s don't arrest

__B_ **4.** L3s ingested late 1st grazing season; Pathology early 2nd grazing season

__A_ **5.** Treat 1st grazing season calves early in the 1st grazing season with an adulticide.

__B_ **6.** Sudden acute pathology due to mass reactivation of arrested L4s.

__A_ **7.** Pathology during Summer to early Fall in Cool Region (aka North, ex. Iowa).

__A_ **8.** Pathology in young calves (weanlings).

**A.** Type I Ostertagiasis

**B.** Type II Ostertagiasis

**C.** Both Type I & Type II

# Ostertagiasis
# Type I v/s Type II

**Matching:** Match each Type of Ostertagiasis with its associated characteristic.

__B_ **1.** Southern Calves grazed in the spring and moved to Northern Feed-lots have pathology in the Fall.

__B_ **2.** Pathology during Fall in Arid Region (aka South, ex. Arizona).

__A_ **3.** High Morbidity, Low Mortality

__B_ **4.** Treat 2nd grazing season calves, late in 1st grazing season with a larvicide.

__B_ **5.** L4s arrest and reactivate later.

__A_ **6.** L3s "trickle-in" while grazing, thus a slow, progressive pathology.

__A_ **7.** L3s ingested early 1st grazing season; Pathology mid to late 1st grazing season.

__B_ **8.** Pathology in older calves (yearlings).

**A.** Type I Ostertagiasis

**B.** Type II Ostertagiasis

**C.** Both Type I & Type II

# *Ostertagia ostertagi*

## Control: Pasture Management

**Good or Bad:** Good or bad pasture management practices for cattle.

**A.** Good

**B.** Bad

__B_ **1.** Naïve calves on pasture after older calves.

__A_ **2.** Cow / Calf operations that graze cows and their calves side-by-side.

__B_ **3.** Mix young calves and older calves

__A_ **4.** Naïve calves on fresh pasture before older calves.

__B_ **5.** Use the same pasture for calves every year.

# *Trichostrongylus colubriformis*

## Pathology & Clinical Signs

**Check box:** Check the Boxes that apply to the Pathology & Clinical Signs of *Trichostrongylus colubriformis*.

- [x] Protracted Watery Diarrhea.
- [ ] Acute Anemia and Death
- [x] Anorexia, Weight-loss, Stunted Growth
- [x] Black Scours
- [x] Fly Strike
- [ ] Moroccan Leather
- [x] Dingleberries and Dags

# Minor GINs

**Matching:** Match each Minor GINs with its associated characteristic.

*(One blank has more than one answer.)*

__A_ **1.** Abomasum or Stomach.

__E_ **2.** Protracted watery diarrhea, anorexia, weight-loss

_B,C,D_ **3.** Small Intestine

__A_ **4.** Horses

__B_ **5.** The Bankrupt worm

__E_ **6.** Ruminants

__A_ **7.** May cause issues with co-grazing Horses & Sheep

__D_ **8.** May show resistance to Macrocyclic Lactones in Cattle

__C_ **9.** Post-winter Larval storms due to mass hatching of over-wintered eggs.

__E_ **10.** Deworm young hosts early in the grazing season.

**A.** *Trichostrongylus axei*

**B.** *Trichostrongylus colubriformis*

**C.** *Nematodirus sp.*

**D.** *Cooperia sp.*

**E.** All the above