

Nematode Parasites of Primary Importance for Wyoming Cattle

FACT LIST

- Trichostrongylid roundworms infect virtually all cattle and other ruminants, every month of the year; mature, tolerant animals are the infection reservoir for young stock.
- *Ostertagia ostertagi* and other *Ostertagia* species are the most prevalent and most detrimental nematodes for young cattle (<3 years old).
- Detrimental effects are most pronounced in late summer/early fall (in calves), and during mid-winter to early spring (yearlings and 2-year-olds).
- Late summer/early fall disease in calves is due to adult, egg-laying worms in the lumen of the abomasum: diagnosis by fecal flotation + egg counts, done at a veterinary laboratory.
- Winter disease in yearlings & 2-year-olds is due to inhibited L4 larvae embedded in the abomasal mucosa, near the gastric glands; HCl production is inhibited, abomasal pH rises, digestion of protein ceases, animal development and condition declines to the degree dependent on number of hypobiotic/inhibited larvae present: diagnosis is by direct observation of abomasal mucosa (count the white bumps). **Adult, egg-laying worms are scarce or non-existent during winter months and so egg counts are useless to detect this form of the disease.**
- Late winter/early spring “wrecks” are due to high numbers of inhibited larvae simultaneously breaking out of hypobiosis, becoming adults in lumen of the abomasum; this usually occurs within two weeks of a warm weather episode in late February, March or April: diagnosis is by necropsy examination of abomasal mucosa for ulceration/inflammation **OR** by fecal egg counts 2-3 weeks after clinical onset.
- Treatment strategies:
 - Use an effective enteric dewormer (target adult worms) on calves coming off range/at weaning.
 - Apply effective systemic anthelmintic (target inhibited larvae) to animals during late fall/early winter, after grazing is minimal.
 - If possible, apply enteric dewormer to adult animals prior to spring/summer turnout to minimize/delay buildup of worms in pasture during grazing season.
- Complete elimination of trichostrongylids is effectively impossible, for several reasons: (1) anthelmintic treatments seldom eliminate 100% of inhibited worms, (2) worms are present on virtually all pasturage inhabited by wild and domestic ruminants, (3) many infective, ensheathed L3 larvae on vegetation can over-winter, especially when covered by an insulating layer of snow, (4) the worms have terrific reproductive potential, quickly building up in number on forage fed on by animals in pasture/on range

Dr. W. R. Jolley, Parasitologist, WSVL

Willjo@uwyo.edu

February 5, 2003

Citation:

Malczewski A, Jolley WR, Woodard LF 1996, Prevalence and epidemiology of trichostrongylids in Wyoming cattle with consideration of the inhibited development of *Ostertagia ostertagi*. Vet Parasitol 64(4): 285 - 297.