

Internal Parasite Levels in Assateague Island Feral Horses Compared to Domestic Horses

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Abstract: Internal parasites are a significant threat to the health of horses, with the effects being more evident in young and undernourished individuals (Stoltenow and Purdy, 2003). Infestation with internal parasites can result in symptoms ranging from retarded growth, weight loss, poor appetite, rough hair coats and even death. An important factor that can lead to increased parasite infection in horses is a high stocking rate. This simply means a large number of horses kept on a small amount of land. It was therefore the objective of this study to compare the parasite levels of free-roaming feral horses on Assateague Island to six domestic herds in Maryland kept confined on pastures. Internal parasite egg loads from these seven herds were determined by use of the Modified McMaster technique (Whitlock, 1848) to determine fecal egg counts (FEC). The feral herd has never received any anthelmintic/deworming treatments while the domestic herds had previously not been dewormed for six weeks prior to fecal sample collection. There was no statistical difference in parasite loads between the domestic and feral herds ($P < 0.53$; Figure 1) even though the average egg per gram for the feral herd was numerically less than that from the domestic herd. Most feral horses sampled had a low level of parasite infections compared to the domestic horses sampled (Table 1). In addition, the mean FEC of yearling horses was significantly ($P < 0.0001$) greater than FEC from adult/mature horses sampled when the data from all domestic horses was pooled (Figure 2).

Figure 1. Mean FEC (eggs per gram) in Assateague Island's Feral horses versus domestic horses

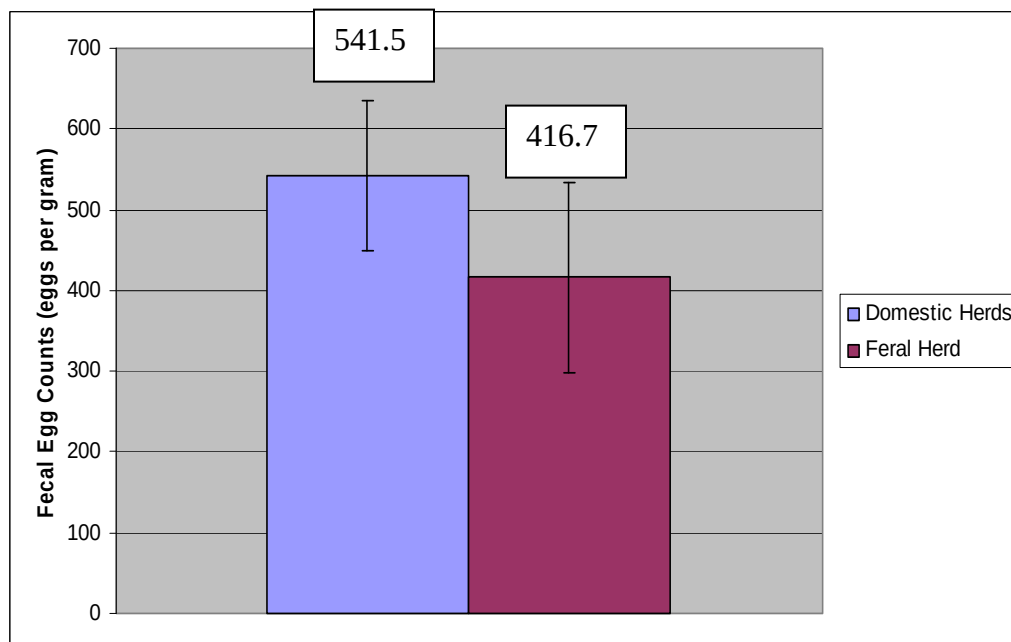
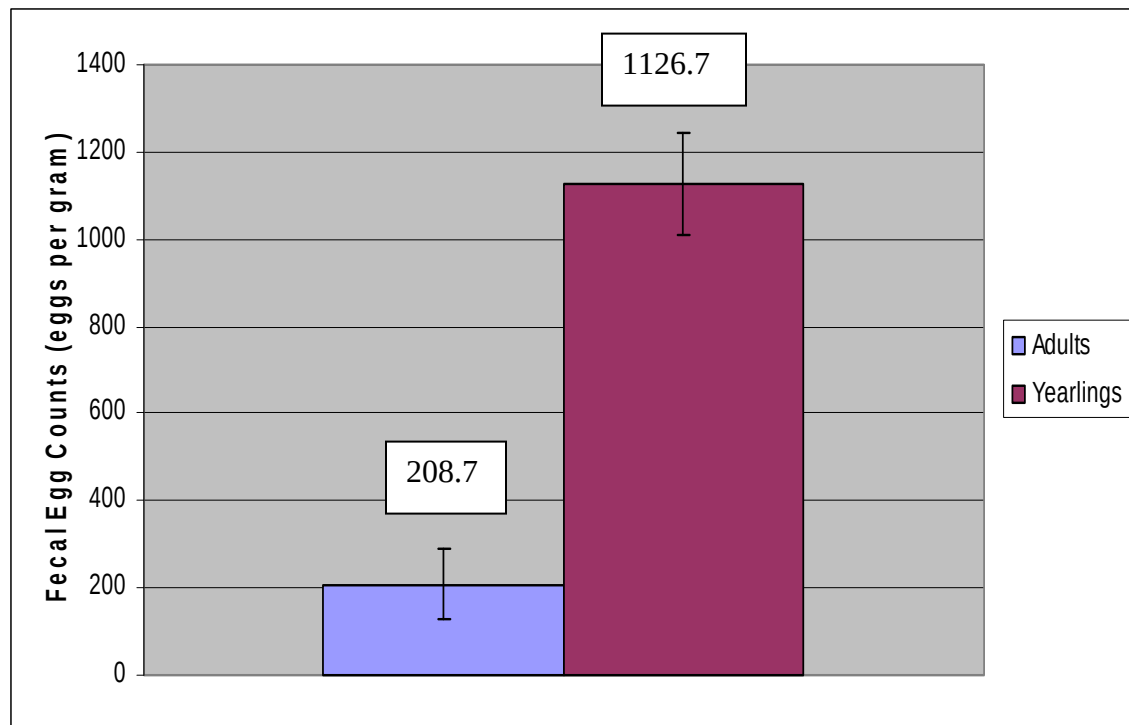


Table 1. Percent of feral and domestic horses with low, medium, or high parasite infection levels.

Herd	% in Parasite Infection Levels		
	Low	Medium	High
Feral	88.9	11.1	0
Domestic	72.7	16.7	10.6

Figure 2. Mean FEC (eggs per gram) in yearling versus adult or mature horses.



Discussion

Previous studies have found that Assateague's feral horses had significantly less parasite loads when compared to domestic herds (Young et al., 1999; McCulloh and Myerowitz , 2002). The lower parasite levels observed in the feral horses are most likely due to the ability of these horses to wander freely on the Island leaving behind any infective feces. Horses kept confined on insufficient pastures or stalls are more likely to encounter larvae and eggs than horses allowed to roam freely over a number of acres. Also, because these horses have been running wild on Assateague Island since the mid 1600's, they might have developed a greater immunity/resilience to internal parasites when compared to domestic herds. As expected, young horses, such as the yearlings in this study, are more susceptible to infestations by internal parasites compared to adult horses. In addition, the effects of parasitism are usually more evident in the young horses since the mature horses have been exposed for a much longer time.