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Control of Internal Parasites of Dairy Cattle

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GASTROINTESTINAL PARASITES (worms) can be a problem in dairy herds. Young cattle raised in close confinement, particularly in conditions of mud and manure or limited to a small grazing or exercise area, may become heavily infested with worms.

Adult cows may also carry heavy parasite loads but the frequency of occurrence and number of eggs per gram of feces is usually less than found in young cattle.

Michigan Herds Infected

Fecal (manure) samples from 270 head of dairy cattle on 13 Michigan farms were examined for parasite eggs during the fall and winter (1975-76). Intestinal worm eggs (trichostrongyles) were found in the feces of 58% of the calves under one year of age; 64% of the yearlings and bred heifers; and 45% of the adult cows. Egg counts per gram of feces (epg) of infested cattle averaged 48, 49 and 22 for calves, bred heifers and cows respectively. Coccidia were present in the feces of 87% of the calves, 81% of the yearlings, and 75% of the cows sampled as shown in Table 1. These herds were concerned about the growth of young cattle and health and performance of the milking herd and therefore may not have been typical. Regardless of the other factors, the egg counts were indicative of a possible parasite problem.

Parasites Depress Growth of Young Cattle

Several studies have shown that heavy burdens of gastrointestinal parasites depress the growth of young cattle.

When calves grazed small paddocks continuously all summer in Denmark without treatment for parasites, the growth from July 10 until fall was depressed to 0.18 lb (80 g) per head daily compared to 0.48 lb for calves treated twice and 0.79 lb daily gain for calves treated three times.

Growth was similar for all groups of calves from turning out in spring to July 10. Worm larvae counts increased dramatically to about 700 larvae per kilogram (kg) of dried grass on the continuously grazed plots compared to less than 100 larvae per kg when calves were grazed on fresh paddocks after July 10.

The worm infestations of the environment apparently increased dramatically during hot, humid weather, and cattle confined to such conditions became heavily infested with parasites.

A study of the prevalence of infective parasite larvae in the environment of dairy farms revealed that a range from 62 to 2,460 infective third-stage Trichostrongylid larvae were recovered from single 3-inch square areas examined from around the stall or manger areas of 9 Vermont dairy barns. The period of greatest contamination was found to be in the fall months when up to 100% of all samples con-

Table 1. Incidence of parasitism of dairy cattle in problem herds as indicated by prevalence of eggs in fecal samples

Species of worm eggs	Calves under 1 yr		Yearlings and bred heifers		Adult cows	
	No. samples 36	No. herds 8	No. samples 90	No. herds 7	No. samples 143	No. herds 13
Trichostrongyles ¹ (% infested)	58		64		45	
Eggs/gram infested feces, avg.	48		49		22	
Coccidia present (% of cattle)	87		81		75	

¹Trichuris and Nematodirus were found in a few cases.

Table 2. Effect of treatment for G-I parasites on growth of calves continuously grazing on the same paddock vs. moved to fresh paddock July 10

	Same paddock all summer			Moved July 10		
	Untreated	Treated 2 times	Treated 3 times	Untreated	Treated 2 times	Treated 3 times
	Daily gain (lb)					
Prior to July 10	1.38	1.50	1.34	1.38	1.43	1.54
July 10 to fall	0.18	0.48	0.79	1.42	1.82	1.91
All summer	0.70	0.92	1.03	1.40	1.66	1.66

Calves were 4 months of age at beginning. Institute for Animal Research, Copenhagen, Denmark, 1975.

tained larvae (Grisi and Bliss, Jour. Dairy Sci. Abs., June 1976).

Worm Loads Depress Milk Production

Cows artificially parasitized with 200,000 larvae produced 2.6 lb less milk daily than comparison mates freed of parasites. Cows that were infested during the first 90 days of their lactation produced 6.37 lb less milk daily, while daily milk loss was only 0.38 lb from cows exposed after the first 100 days of lactation (Jour. Dairy Sci., June 1976).

The effect on milk production from deworming twice during early lactation (at calving and 50-100 days after calving) was studied on 9 Vermont dairy herds. Treated cows increased milk production 543 lb more (305-day, mature-equivalent) over their previous lactation than untreated herd mates.

Logic and limited farm experience indicate that first-calf heifers heavily infested with parasites at the time of calving tend to produce poorly.

Steps to Control Parasites

1. Clean-up the environment.
2. Remove accumulations of manure and mud-holes.

3. Provide clean, fresh bedding.
4. Move cattle to a clean exercise lot or grazing area in early summer whenever possible.
5. Avoid over-crowding.
6. Have veterinarian check feces for parasites whenever cattle appear unthrifty, gain poorly or inefficiently.
7. Provide plenty of good quality feed. Cattle fed poorly tend to be more severely affected by parasites and respond poorly to treatment.
8. Treat infected cattle with the appropriate dewormer. Consult your veterinarian for the proper products to be used.
9. **Read the label on deworming materials and follow directions** exactly as prescribed. Most dewormers cannot be used on cows producing milk for the market.
10. **Treatments:** Currently Baymix® (Coumaphos) is licensed for use without discarding of milk. Thiabendazole (TBZ) cannot be used in lactating animals, but good results have been obtained by treating cows at or near term with this drug. Colostrum will contain residues of TBZ, but this cannot be sold anyway so there is no economic disadvantage to this form of treatment. Coccidia are not eliminated by Coumaphos or TBZ. Special treatment such as Amprolium is required to control coccidia.