

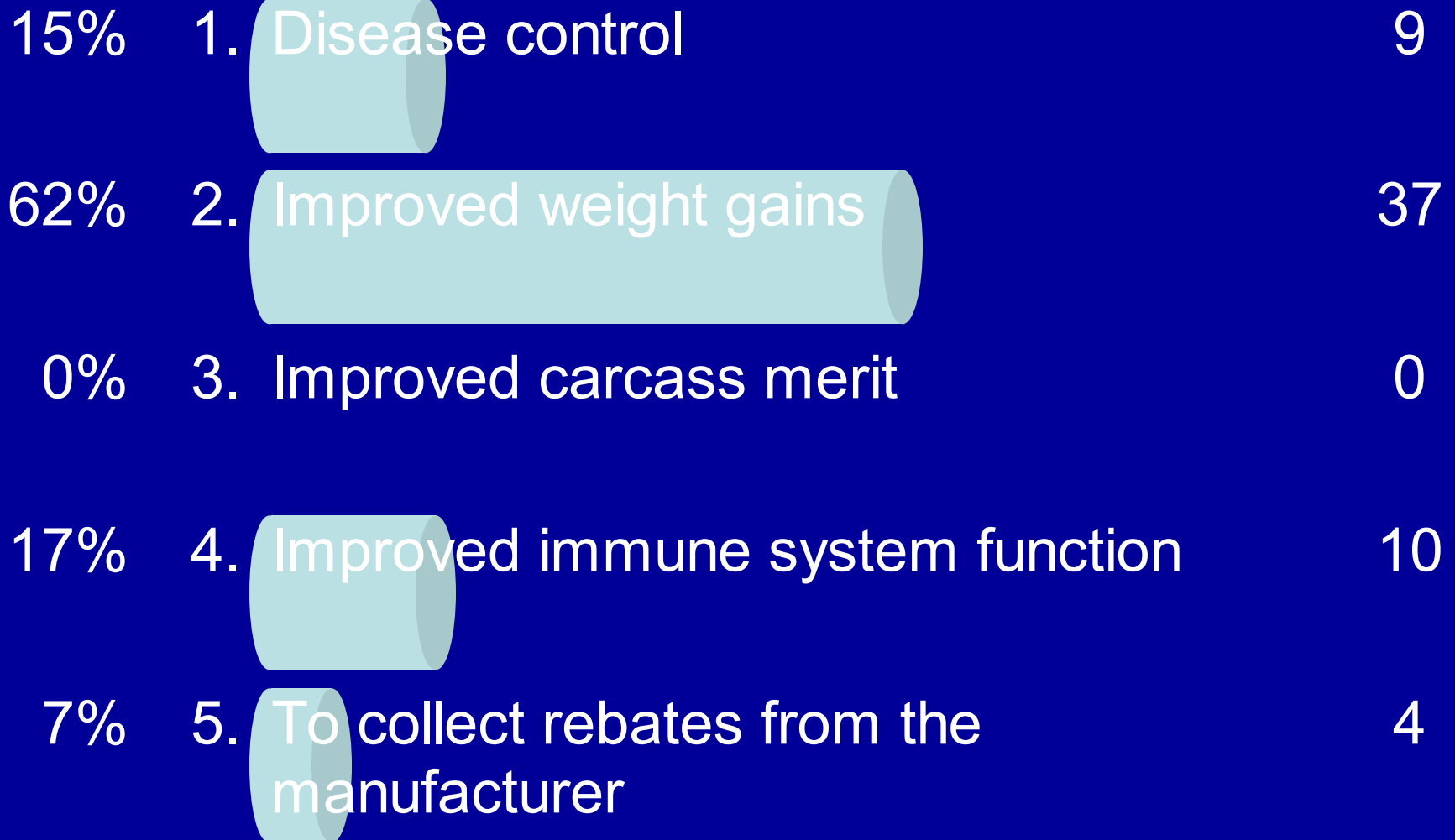
Parasitology Basics

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Why do you deworm your stocker cattle ?



60 Total Responses

**Pasture: only major source
of internal parasites.**



Parasitology Basics

Internal parasites

- Stomach worms, intestinal worms
- The gastrointestinal tract of cattle is often infected with internal parasites
- Infected cattle pass eggs in manure onto the ground;
- Eggs hatch in the manure; Rain washes the larvae from the manure; larvae migrate into soil
- Cattle swallow larvae migrating up on wet grass once soil moisture and temperatures reach optimal levels

Parasitology Basics

- The worms mature in about 3 weeks and lay eggs.
- In June, July and August, larval development of the brown stomach worm, the most common and harmful of the internal parasites, is inhibited in the stomach lining. The worms are usually transmitted when soil temperatures are 55° F to 85° F in rainy periods in late summer (July, August) and early fall (Sep- Oct). Pasture larvae hibernate in winter (November through March) and sometimes in the summer (May- June).

Parasitology Basics

- Lung worms
- Lung worms cause a lung disease in cattle with clinical signs similar to those caused by viruses, bacteria and allergies. Transmission and control are the same as for other internal parasites. Lung worm disease occurs in previously unexposed cattle, such as in calves or naïve cattle moved into lungworm infested pasture.

Parasitology Basics

- Calves have low immunity and usually become wormy during their exposures. Heavy exposures cause disease; light exposures produce immunity. Adult cattle and young cattle have immunity from previous exposures, but often become wormy when:
 - Nutrition is inadequate and their immunity has lowered;
 - Brown stomach worm larvae have emerged from the stomach lining in mid- late summer; and
 - Heavy exposures have occurred.

Parasitology Basics

- Clinical signs of wormy cattle include pale mucous membranes, bottle jaw, pot belly, diarrhea, drawn up, not grazing, not chewing cud, rough and dry haircoat, thinness, weakness and inability to stand.
- **Anorexia**
- Most of the clinical signs are the same as malnutrition (hypoproteinemia)
- When cattle have a diet with enough protein, vitamins and minerals, fewer worms are normally established and the cattle are more able to withstand their effects.

Parasitology Basics

- The effects of internal parasite infection can be long lasting
- Naïve cattle may become clinically parasitized, but most parasite infections are sub- clinical
- Decreased protein absorption, immune system depression, decreased weight gains, increased disease susceptibility, increased morbidity and mortality, and decreased response to vaccinations are all common with sub- clinical infections

Parasitology Basics

- GI nematode infections may cause profound shifts in subpopulations of T lymphocytes, with a shift towards cells which mediate humoral immunity and away from cells which mediate cellular immune responses. This is important in the immune response to both viral infection and vaccination response
- This can have a negative effect on performance throughout the feeding period and on carcass quality

Parasitology Basics

- Deworming Strategy
- A strategic method requires proper timing. This means that a drug against a parasite must be administered at the right time considering the parasite's biology. Therefore, the correct time is not when the cattle are confined and accessible, or because it has been a long time since the cattle received a drug, or because administrations are spaced evenly (fall and spring, every 6 months). The correct time is when cattle have become infected, the parasite is beginning to develop and cause damage, and conditions are best for transmission

Parasitology Basics

- Administering a drug at the right time breaks the life cycle of the worms and prevents them from building up in cattle. The right time to administer cattle wormers normally depends on the parasite and the development of optimal environmental conditions, which include moderate temperatures, rainfall and wet grass. For stomach worms, administer drugs 3 to 6 weeks after optimal environmental conditions develop.
- This may not be possible in our big, low density stocked pastures

Parasitology Basics

- It is more likely to “do the best you can, when you have them in”
- That is why your product choice is so important

Parasitology Basics

- External Parasites
- Horn Flies- back pours, sprays, dust bags, ear tags
- Grubs- back pours, sprays, dust bags, avermectins (caution with OP pours and timing)
- Ticks- back pours, sprays, dust bags, avermectins
- Lice- back pours, sprays, dust bags, avermectins, infestations usually worse in late winter, early spring

Table 1. Cattle Parasiticides

Products (Trade Name)	Parasites	Methods
Levamisole (Levasole [®] , Tramisol [®] , Totalon [®])	Stomach worms ¹ , lung worms ¹	Drench, injection ⁴ , pour-on, bolus, feed, block
Fenbendazole (Safe-Guard [™]) (Panacur [™])	Stomach worms ¹ , lung worms ¹ Stomach worms ² , lung worms ¹ , tapeworms	Drench, paste, feed, block Drench, paste
Oxfendazole (Synanthic [™])	Stomach worms ² , lung worms ¹ , tapeworms	Drench, paste, injection ⁵
Albendazole (Valbazen [™])	Stomach worms ² , lung worms ¹ , common liver fluke, tapeworms	Drench, paste
Moxidectin (Cydectin [™])	Stomach worms ² , lung worms ¹ , grubs, sucking lice, mange mites, biting lice, horn flies	Pour-on
Eprinomectin (Eprinex [™])	Stomach worms ² , lung worms ¹ , grubs, sucking lice, mange mites, biting lice, horn flies	Pour-on
Doramectin (Dectomax [™])	Stomach worms ² , lung worms ¹ , grubs, sucking lice, mange mites, biting lice ³	Injection ⁴ , pour-on
Ivermectin (Ivomec [™])	Stomach worms ² , lung worms ¹ , grubs, sucking lice, mange mites, biting lice ³ , horn flies ³	Injection ⁴ , pour-on, bolus ⁶
Ivermectin + Clorsulon (Ivomec Plus [™])	Stomach worms ² , lung worms ¹ , grubs, sucking lice, mange mites, common liver fluke	Injection ⁴
Clorsulon (Curatrem [™])	Common liver fluke	Drench

¹Adults, developing larvae; ²Adults, developing larvae, inhibited larvae; ³Pour-on; ⁴Subcutaneous; ⁵Intraruminal; ⁶Sustained release

Parasitology Basics

- **What is the #1 reason that beef producers deworm their cattle?**
- **To increase revenues- (ECONOMIC)**

Parasitology Basics

**OSU and VRCS Pasture/Feedlot Deworming Trial,
118 days on grass; 121 days in feedlot:
650 hd of 600 lb steers; (2000)**

- 48 pounds improved pasture gain (1.3 vs. .9 lb ADG), strategic dewormed (SD) vs. non-dewormed (controls)
- Feedyard entry: fecal egg counts: 9 epg, SD; 50 epg controls
- 83% of all feedlot pulls were pasture controls
- 4 of 5 deads from pasture controls
- 26% improvement in choice, SD vs. controls
- Significant difference in feedlot ADG & feed efficiency between SD and controls (.25 - .8 lb ADG; .2 - .6 lb F/G)

Parasitology Basics

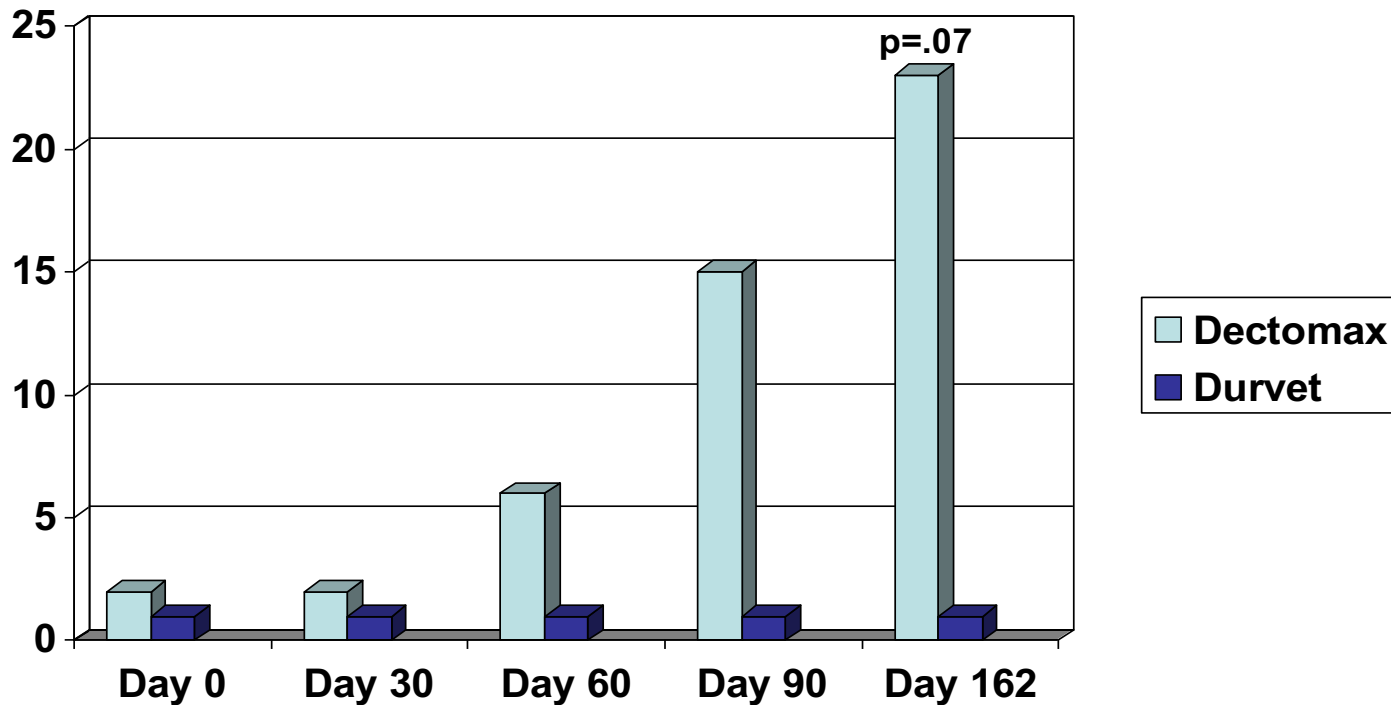
<u>RX</u>	<u>ADG</u>
• Cooper MEC	1.21
• Ivermectin Pour-On	1.28
• Top Line	1.30
• Control	1.30
• IVERCIDE	1.36
• IVOMEK Pour-On	1.42

Parasitology Basics

- 22 lbs of additional gain with Dectomax compared to generic ivermectin
- If value of gain is 0.70/lb, 22 lbs is worth over \$15.00
- They would have to GIVE you \$15.00 with every free dose of generic dewormer !

Parasitology Basics

Dectomax PO vs Durvet PO: Difference in mean weight (lbs)



Deworming Horses

- Range horses- at least 2X /yr Avermectin (Eqvalan, Zimectrin, Quest) in fall, white wormer in spring, if possible late summer
- Horses in corral and trap- 4X per year, rotate but Avermectin in fall

Deworming Cattle

- Mid- late fall –(Sept- Nov)- if only deworm once, use avermectin (Ivomec or Dectomax 1cc/110# SQ)
- If you go to high meadows in summer, deworm before going up- use a benzimidazole-type (panacur, safeguard, valbazen drench at 2.5cc/100#)
- If on irrigated pasture deworm in summer using a white dewormer drench

Deworming Sheep

- Pasture- deworm mid to late fall- use Ivomec drench (12cc/100#, 11 day WD), Ivomec injectable at 1cc/ 75 lbs orally- has been shown kills faster so less resistance, or Cydectin drench (moxidectin at 9.2cc/100# 14 day WD)
- Use either Fenbendazole (**ELDU**) drench (panacur, safeguard at 2.5cc/100#, 6 day WD) or albendazole drench (valbazen at 3cc/100#, 7 day WD) in spring/ summer deworming before moving to summer pastures. **Don't use Valbazen within 30 days of conception**
- Can use pasture rotation system to decrease the need for deworming

Deworming Goats

- Pasture- deworm mid to late fall- use Ivomec drench (24cc/100#, 16 day meat, 9 day milk WD), Ivomec injectable at 1cc/ 75 lbs **orally (35 d meat)**- has been shown to kill faster so less resistance is developed, or Cydectin drench (moxidectin at 18cc/100#, 17 d meat, 8 d milk WD)
- Use either Fenbendazole drench (panacur, safeguard at 5cc/100#, 16 day meat, 4 day milk WD) or albendazole drench (valbazen at 8cc/100#- 9 day meat, 7 day milk WD) in spring/ summer deworming before moving to summer pastures. **Don't use Valbazen within 30 days of conception**
- If consuming milk from goats, use Pyrantel 25mg/ kg (depends on concentration- at 50mg/ml give 20cc/100#) orally- no milk WD

Parasitology Basics

- Summary-
- External parasites- decrease wt gains and lower immune response; can cause anemia and transmit disease
- Internal parasites cause injury that can have long term effects, including throughout finish feeding
- Treating parasitized cattle increases revenue, increases cattle health and well-being
- Name brand products perform more predictably than generics. Generics may contribute to resistance more than name brand products

QUESTIONS ??

- **THANKS FOR LISTENING !!!!**

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The End

