INTERNAL PARASITE CONTROL FOR GOAT PRODUCERS

Ken Andries
Kentucky State University
A cull is a cull no matter what the papers say!!!!!
Sale barns are for selling – not buying!!!
An inch longer is an inch heavier. An inch taller is an inch taller.
Reduce herd to fit feed supply – goats don’t live by acres alone.
Long toes and parasites are best treated with a trailer.
One or more goats requires a catch pen and chute.
The ugly doe is the best producer – otherwise you’d sell her.

Adapted from Cow Production Philosophy, Ideal Beef Memo – November 1983
Two Primary Parasites

- **Coccidia**
  - Mostly a problem in young animals, however all goats tend to be infected.
  - Coccidiastats in the feed (Deccox, Rumensin, Bovatec)
  - Albon and Corid – used in water or drench

- **H. contortus**
  - Barber Pole Worm
  - #1 problem in sheep and goats.

- **Other Worms:**
  - Ostertangia
  - Trichostrongylus
Anthelmintic (dewormer) resistance is considered a major threat to the current and future control of parasites of ruminants and horses

- Worldwide phenomena
- The prevalence of multi-drug resistant worms is extremely high in many areas of the world

The problem is building and producers are often not sure how close to total failure they are.
Changes in “Resistance” Genes in Response to Drug Selection

Resistance is Forever

Detection level with tests

Apparent as a clinical problem

Percent of Worms that Are Resistant

Worm Generations (exposed to repeated treatments)
Classes of Dewormers

Drug Class

Benzimidazole
- Safeguard/
  Panacur
- Synathic/
  Benzelmin
- Valbazen*

Imidazole/
Pyrimidine
- Levasole/
  Tramisol
- Rumatel
- StrongidT

Macrolide
- Ivomec
- Dectomax
- Eprinex
  Cydectin**

*Do not use in first trimester pregnancy
** Minimize use to preserve efficacy

By: Ray Kaplan and Patty Schariko
Fecal Egg Reduction Test

- Requires two fecal samples taken 10 to 14 days apart.
  - The first is at treatment of animals
  - Second is from same animals 10 to 14 days later
  - Should include both treated and non-treated animals
- Due a FEC on the two samples and evaluate change in egg numbers.
- If numbers do not drop by at least 85% product is not effective.
University of Georgia performs the test.
Need pooled sample from at least 10 animals with an average count of >350 eggs/gram.
They hatch the eggs, then check for sensitivity to different anthelmintics.
Results are a profile of resistance to existing products for parasites on the farm.
All new additions should be quarantined and aggressively dewormed upon arrival.

Deworm with 3 anthelmintics from different drug classes:
- Cydectin, Levasol, and Valbazen upon arrival.

Should remain in quarantine for 14 days, minimum.
- Perform FEC to confirm that no eggs are shed.
Selection for Resistance

- Need to keeping records on animals related to parasite treatments
- Resistance is heritable and we can improve it through selection.
- Animals that require higher numbers of treatments are generally not as good on production traits so selection on production helps.
- Often masked by treatment and feeding practices.
Transmission Window

- Transmission – Temp ~ 55 to 95 Degrees F.
- Moisture - ~ 1.5 in/mo minimum.
- Can be caused by heavy dew fall for several days in a row.
- Moisture is key and will see a spike 14 days after a rain when it is dry.
- Once temps drop in fall transmission is minimal until spring and summer warmth.
Utilize Host Physiology to Maximize Drug Efficacy

- Restrict feed intake for 24 hours prior to treatment (BZ and ivermectin)
  - Withholding feed decreases digesta flow rate leading to an increase in drug efficacy
  - Never in late pregnancy

- Repeat dose in 12 hours (BZ)

- These simple measures can substantially improve efficacy when resistance is present and can help to delay resistance if not yet present
A project was conducted at SIPAC on stubble height and parasite loads.

Grazing start at 8 in height and three treatments based on 6, 4, and 2 in. residual before rotation.

Data showed very little difference between parasite loads between different grazing heights.

We still recommend grazing higher and use of rotational grazing, but benefits may be harder to see in our environment.
Selective Treatment

- FAMACHA©
  - For *H. contortus* only
- For other GI worms
  - FEC
  - Age
  - Body condition
  - Production level
  - Symptoms
  - Short term weight gain
Distribution of FEC in Goat Herds

Treating high 33% greatly reduces daily pasture contamination with eggs.

33% of goats
80% of eggs

Treating 33% of goats leaves 67% untreated = REFUGIA
Know the resistance status of your herd

- Perform FECRT or DrenchRite®, 2 yrs.

Proper technique when drenching sheep and goats is very important

- Drench should be delivered over the back of the tongue

Dose According to Weight
Drug Combinations

- Cocktail dewormers are becoming more common.
- Should be used with caution as they can cause overdosing.
- Need to use products from different classes of chemicals.
- Give recommended dose of each product.
- Can be more effective than either product alone.
- Not recommended to use a product that is still effective in a cocktail mix.
COWP Evaluations

- KSU study to compare COWP to the three classes of chemical dewormers.
- Showed some effect on the goats, but not as strong as the chemicals.
- SIPAC study completed this year showed very little control using COWP but a fecal culture showed that H. Contortus was not the major parasite after treatment.
Grazing for Parasite Control

- Rotational grazing is critical to break cycle.
  - 7d on and at least 28d off system.
  - Need several months to reduce larva on pasture.
- Grazing height is still important.
  - Do not graze below 4 in., 6 in. is better.
- Alternative forages help in quality as well as grazing height.
- Co-grazing with cattle or horses.
Annual Forages
- Increase grazing height
- Remove existing worm load on field

Condensed Tannin containing plants
- Not all are created equal
- Recommend use of Sericea Lespedeza with high tannin

Chicory
- Research is just starting on its effectiveness
Grazing Management
- Proper grazing height
- Rotational Grazing
- Alternative forages

Selective Deworming
- Treat animals with high infestation
- Do not treat when infection rates are low
- Use an effective treatment product
Issues with parasite studies

- Parasite populations are unique to each farm.
- COWP effect has been shown to be impacted by mineral nutrition and age of the animals.
- High infections may cause problems in interpretation/accuracy of test.
- Recommend each producer learn more about the parasites on their farm, their resistance levels, and test novel approaches before committing totally to them.
A Recommended Treatment Plan

- Deworm all does at Kidding
  - Spike in FEC occurs at kidding
- Check eye color (FAMACHA) monthly during grazing
- Conduct FEC on random sample of animals at start, and end of grazing season, or if problems are suspected.
- Buy and use a scale to properly treat all animals
- Check Kids when you check does on pasture
Questions?