INTERNAL PARASITES

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A. Coccidiosis:

1. Primarily a problem in weaner age lambs.
2. Causes diarrhea and even bloody scours.
   b. Feed in mangers.
   c. Keep water free of manure; eliminate puddles in corral.
   d. Use coccidiostats in feed lasalocid at 20-30 grams per ton. (Overdosing can be fatal; must keep horses away.) (Other coccidiostats are not currently approved and they cannot legally be used on extra label or prescription basis.)
4. Treatment.
   - Sulfadinoxine
   - Chlortetracycline feed premix
   - Oxytetracycline feed premix
   - Oxytetracycline water soluble powder
   (Other products would have to be used on an extra label basis, working with your veterinarian.)

B. Roundworms:

1. Need for deworming.
   a. Continuous range, except for shed lambing: seldom a need for deworming adult sheep; may be of benefit to deworm weaned lambs.
   b. Moderate time on wet meadows and irrigated pastures. Need a program to reduce contamination of pastures and infection of lambs.
   c. Long term on same pasture area or rotate back to it. May need an intense control program to prevent production and death loss.
2. Parasite survival.
   a. Eggs and larvae will survive cold and freezing. Hot and dry is much more effective in reducing pasture/range contamination, especially after the parasite larvae have almost completed development.
   b. Proper temperature and moisture will allow survival of eggs/larvae for at least a year.
c. Ewes tend to shed many more eggs prior to, and right after, lambing (periparturient egg rise).

3. Monitoring contamination level.
   a. Veterinarian can make an educated estimate of severity by observing range/pasture and knowing the sheep movement patterns.
   b. A much more sensitive monitoring system involves doing fecal egg per gram counts periodically. Samples should be selected from 10 head per group and be especially aware of average levels present in lambs. This will allow planning of timing for deworming as well as evaluating effectiveness of products used. The modified McMaster techniques now available to practitioners has simplified the egg process while maintaining reliability.

4. Control.
   a. Take advantage of hot, dry weather and of mechanical feed harvesting to reduce larvae level on pasture/range.
   b. Timing of deworming is as important as which product is used.
   c. Planned (strategic) deworming is much more effective than even repeated deworming at 6 week intervals.

5. Sample Programs (Increasing severity).
   a. Deworm lambs at weaning (only those kept for replacement or as feeders)
   b. Deworm lambs (as in “a”); deworm ewes at weaning (preferred) or just prior to lambing.
   c. Deworm lambs and ewes at weaning. Deworm ewes prior to lambing and twice more at 3 week intervals. Monitor fecal egg per gram counts to determine best additional timing.

6. Products Approved for Sheep.
   thiabendazole
   levamisole
   ivermectin (much more effective against encysted stages)
   (Oral product is much more effective in sheep than the injectable that is used in cattle and the injectable is not approved for sheep anyway.)

C. Tapeworms:

1. Human health.
   a. Echinococcus can cause cysts in human lung, brain, liver, etc. This tapeworm is very small and is contracted by humans after handling dogs, which have eaten viscera from infected sheep.
   b. Protect yourselves and workers. Don’t allow dogs to eat on sheep carcasses. Have dogs checked at least annually and dewormed for tapeworms quite often if any are positive. Educate all to wash hands after handling dogs.

2. Other tapeworms.
   a. Segments are commonly seen in sheep manure.
   b. Usually considered to have little effect on production or gain of sheep, but probably can have some effect when heavy.

3. Treatment
   None of the products approved for use in sheep have any effect on tapeworms. Extra label products can be used, but only through your veterinarian and with proper withholding before slaughter.
D. Liver Flukes:

1. Effect.
   Cause severe production loss when present. The presence of snails and a moist environment are needed for transfer.

2. Diagnosis.
   A recent innovation has greatly aided in the finding of fluke eggs in feces. A herd can now easily be monitored by a veterinarian with use of the “Flukefinder.”

3. Deworming.
   Neither of the two products approved for use in cattle have been approved for sheep. They can be used in sheep, but only as an extra-label use product.