Sheep Health - An Update

G. F. Kennedy

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The animal health problems confronting the sheep industry today are much the same as they were 20 years ago except that now we have many additional aids to help us in a practical approach to solving these problems. Furthermore, we have products that we can borrow from the other species and adopt to help us in sheep health.

Unfortunately, the economic benefits of many products do not warrant major drug companies efforts to have them cleared for use in sheep. Use of these products puts the veterinarian and the sheep producer in a precarious position as far as the food and drug people are concerned.

Another problem encountered today is "doc" doesn't know anything about sheep and he doesn't care. Two things have to occur before your veterinarian can help you in your sheep operation. First, he must have enough sheep practice to become knowledgeable and, secondly, it must be economically profitable for the veterinarian and the producer. If these two conditions exist, you'll likely find a veterinarian that will help you.

There are about 7,000 food animal practitioners in the United States and about four billion food animals. The patient/doctor ratio for human medicine is about 740 to 1, while in food animal medicine, it's about 645,000 to 1. It would be even more dramatic in sheep practice, since sheep are not considered as important. Therefore, be prepared to learn how to do the routine procedures yourself and depend on your veterinarian for diagnosis and counsel.

The statement "a sick sheep is a dead sheep" is very misleading. Actually they can get sick several times. True, at times sheep give up easily; but they just don't die. Something kills them and in many respects they respond better to treatment than the other livestock species--probably due to the less complicated nature of most sheep diseases.

We absolutely insist that drugs and biologics should not be used unless the flock owner knows for what purpose they are intended. In other words, don't get needle happy.

G. F. Kennedy is engaged in food animal practice at Pipestone, Minnesota. He is a member of the Advisory Board of the Pipestone Area Vocational School Lamb and Wool Program. He also has a flock of purebreds Suffolk sheep.
A typical production and health program, as recommended to members in the Pipestone Sheep Project, would include the following. During the fall breeding season, ewe lambs and previously unvaccinated ewes are vaccinated for vibrio. At mid-gestation all ewes are vaccinated for vibrio. This results in one injection for previously vaccinated ewes and two injections for unvaccinated ewes. In problem flocks, we are now recommending vaccination of ewe lambs at breeding, again in 30 days and also at mid-gestation.

At mid-gestation, same time as vibrio, we recommend an inoculation of Clostridium Perfringens Type C Bacterin Toxoid. Four to 6 weeks prior to lambing, we recommend a second injection of Type C plus Clostridium Perfringens Type D. These two bacterins may be mixed and one company has a combination product available. At this time many sheepmen in the Pipestone area offer a pound of hay and grain pellets containing 5 mg. selenium and 350 I.U. vitamin E. This supplement is split and fed over a 2- or 3-day period.

The vibrio injections are given to prevent abortion. The Type C product prevents what can be a highly fatal, acute enterotoxemia in very young to older lambs up to 8 weeks of age. The Type D injection is to increase the D antibody in the ewe's milk to give early immunity to Type D enterotoxemia. The selenium-vitamin E pellet is fed to prevent white muscle disease. While we supposedly reside in a so-called non-deficient area, we have had many laboratory diagnoses of this condition plus many clinical cases that have responded to L-SE or BO-SE.

We recommend castration (if necessary) and docking at 2 or 3 days of age. We cut off the bottom of the scrotum and simply pull out the testicles and remove the tail with a L-H docker. We like to give a cc. of penicillin or penicillin-dihydrostreptomycin at the same time. If tetanus (lock jaw) is a problem, tetanus toxoid may be mixed with the penicillin injection. If an outbreak of Type C enterotoxemia occurs, Type C antitoxin and a 250 mg. tetracycline HCL USP capsule are given at birth. Lambs should be vaccinated for sore mouth, contagious ecthyma, if the disease has occurred previously on the farm.

At 5 weeks the first injection of Clostridium Perfringens Type D is given and repeated at 8 weeks. Lambs should be weaned at 10 weeks of age. Type D is to prevent enterotoxemia.

2 Vibrio Fetus Bacterin, ovine strains, Colorado Serum Company, Denver, Colorado.
3 Clostridium Perfringens Type C Bacterin Toxoid is commercially available from several companies.
4 Clostroid C-D, Fort Dodge Laboratory, Fort Dodge, Iowa.
5 BO-SE and L-SE vitamin E and selenium injection, Burns-Biotex Laboratory Division, Chromalloy Pharmaceutical Inc., Oakland, California.
6 L-H Docker, L-H Manufacturing Company, Mandan, North Dakota.
The commonly used drugs include penicillin, penicillin-dihydrostreptomycin, the various forms of the tetracyclines and the various sulfas. We use penicillin and penicillin-dihydrostreptomycin for prevention of bacterial infections during minor surgical procedures and obstetrical work.

The tetracyclines include Oxytetracycline, Terramycin, Chlortetrasyccline, Aureomycin and Tetracycline U.S.P. We use the tetracyclines as aids for prevention and control of enterotoxemia at the rate of 20 mg. orally in the feed per lamb per day.

Injectable Oxytetracycline is our first choice for pneumonia, 5 mg. intramuscularly per pound of body weight per day for 3 to 5 days in combination with the sulfa drugs. An early diagnosis and prolonged treatment are absolutely essential for successful treatment of pneumonia. In stubborn cases, sensitivity tests may be conducted and other drugs used--some of which may not be on approved lists and should not be used on sheep going to slaughter.

S.E.Z. now appears to be the drug of choice to administer orally for upper respiratory infections, particularly chronic coughing, one ounce per gallon of water for 4 days, repeat as indicated.

We use 250 mg. tetracycline HCL capsules U.S.P. once orally to control any scouring prior to 2 weeks of age. After 2 weeks of age, a differential diagnosis must be made to determine if coccidia are present.

We use the sulfa drugs for generally two conditions, coccidiosis and pneumonia. Sulfamethazine can be used in the drinking water to control pneumonia. We don't recommend this practice unless the flock owner has experienced a serious problem previously and will make whatever management changes are necessary. We feel that continued routine treatment without management changes will result in resistant organisms and a worse problem than the original one. Sulfaethialozole is effective against pneumonia but is not coccidiostatic.

We use 7.5-grain triple sulfa tablets containing coccidiostatic sulfas to treat suckling lambs for coccidia and pneumonia at the dosage of 1 grain per pound of body weight for 3 to 5 days. Rumensin at 15 grams per ton of complete feed will control coccidiosis but as of yet has not been approved for sheep.

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7 Two weeks prior to lambing, sulfamethazine may be added to the drinking water at the rate of 1 gallon of 12.5% solution to 120 gallons of water. The treated water is offered on the following schedule: Sulfamethazine added to water for 5 days; 2 days regular water; 2 days treated water; 2 days regular water and 2 days treated water. Medication will decrease slightly the amount of water consumed.
We rely on primarily two products for controlling stomach worms, Levasole and Haloxon (Loxon). We think worming is best done when changing pastures or in drylot. Worming heavily parasitized sheep on a short pasture and returning them to the same pasture is an exercise in futility. Levasole (Tramisol) can be used as a drench. It also works well as an injectable but has not been approved as yet for sheep as it can't be recommended. Tramisol (same drug, different trade name) cattle wormer pellets have been used in the feed with success. Levasole has the added advantage that it controls lung worms.

Tapeworms can be of economical importance if infestation is severe, but probably their most important value is that the presence of segments in the fecal droppings is a good visual indication of the stomach worm load the flock is carrying. We mix 3 ounces of lead arsenate powder (not readily available) plus a 172-gram Haloxon package, quantity sufficient for 3 quarts of water, and drench at the rate of 1/2 ounce per 50 pounds of body weight. In most flocks we recommend twice a year worming--once with Levasole and once with Haloxon-lead arsenate. The feeding of phenothiazine in the salt is beneficial.

A new product Camvet, a horse wormer, has shown promise as a complete wormer, including tapes, at the rate of 1/2 ounce per 50 pounds but as of yet is not approved for slaughter sheep.

A similar unapproved product Panacur (Fenbendazole 10%) shows promise against all types of worms. It has an advantage of a small volume oral dosage. Neither Camvet nor Panacur should be used on pregnant ewes.

Foot rot and eye infections have been of little significance in the Pipestone area. Eye medications should be restricted to broad spectrum antibiotics and sulfa drugs in ointment or liquid forms. Aerosols and powders should be avoided as they are irritating.

Animals with rectal prolapses, when they occur, may be sent immediately to slaughter or, if amputation is desired, it is best done with commercially available plastic rectal rings that should be tied off with 3/8-inch umbilical tape. Ideally, the ring and the amputated portion of the rectum will fall off in about 4 days.

Urinary calculi can be prevented by adding 30 lb. of limestone and 20 lb. of salt per ton of complete ration. There should be no phosphorus added to high energy rations. Ammonium chloride at 5 to 10 lb. per ton will correct the condition when it occurs, along with adjusting the ration.

Levasole (Lavamisole phosphate), Pitman-Moore, Washington Crossing, New Jersey.
Camvet (Cambendazole), Merck Animal Health Division, Merck and Company, Inc., Rahway, New Jersey.
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<thead>
<tr>
<th>Month</th>
<th>Task</th>
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<tr>
<td>September</td>
<td>Turn out rams&lt;br&gt;September 9 for February 1 lambs&lt;br&gt;A. Flush ewes&lt;br&gt;B. Worm with Tramisol&lt;br&gt;C. Vaccinate flock additions for Vibrio and sore mouth</td>
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<tr>
<td>October</td>
<td>A. &lt;br&gt;B. &lt;br&gt;C. &lt;br&gt;D.</td>
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<tr>
<td>November</td>
<td>A. Vaccinate all ewes for Vibrio&lt;br&gt;B. Vaccinate flock additions with Type C and D&lt;br&gt;C. &lt;br&gt;D.</td>
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<tr>
<td>December</td>
<td>A. Shear ewes&lt;br&gt;B. &lt;br&gt;C. &lt;br&gt;D.</td>
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<tr>
<td>January</td>
<td>A. Vaccinate with C-D first week&lt;br&gt;B. Feed selenium and vitamin E&lt;br&gt;C. &lt;br&gt;D.</td>
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<tr>
<td>February</td>
<td>A. Dock and castrate lambs&lt;br&gt;B. Vaccinate lambs for sore mouth&lt;br&gt;C. &lt;br&gt;D.</td>
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<tr>
<td>March</td>
<td>A. Give lambs first injection of Type D at 5 weeks&lt;br&gt;B. &lt;br&gt;C. &lt;br&gt;D.</td>
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<td>April</td>
<td>A. Give lambs second injection of Type D at 7 weeks&lt;br&gt;B. Wean at 8 to 10 weeks&lt;br&gt;C. &lt;br&gt;D.</td>
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<tr>
<td>May</td>
<td>A. Worm ewes with wormer that is effective against tapeworms prior to going on pasture&lt;br&gt;B. Shear lambs that won't be marketed by June 15&lt;br&gt;C. &lt;br&gt;D.</td>
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<td>June</td>
<td>A. &lt;br&gt;B. &lt;br&gt;C. &lt;br&gt;D.</td>
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<td>August</td>
<td>A. &lt;br&gt;B. &lt;br&gt;C. &lt;br&gt;D.</td>
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SHEEP HEALTH PROBLEMS AND TREATMENTS

Pneumonia - Injectable oxytetracycline - 5 mg. per 1 lb. body weight in combination with sulfa drugs, 1 grain per pound body weight.

Inject L-SE - particularly young lambs.

S.E.Z. - one ounce per gallon of drinking water for 4 days.

Bacterial Infections (abscesses, wound infections, lump jaw, etc.) - Penicillin.

White Muscle Disease - Prevention - Feed 1 pound of pellets containing 5 mg. selenium and 350 I.U. vitamin E.

Treatment - Inject L-SE or BO-SE.

Scouring at 2 Weeks of Age or Less - Give orally one 250 mg. tetracycline HCL capsule. Give only one. Any more will kill the bacteria in intestinal tract and give you more problems.

Chloramphemial capsules can be used when tetracycline doesn't work. (Unapproved).

Sensitivity tests helpful if these drugs don't work.

Scouring After 2 Weeks of Age - May be contending with coccidiosis - same treatment as above with addition of a sulfa drug, 1 grain per pound. That is effective against coccidia. (Sulfamethazine).

Coccidiosis - Prevention - Ewes: 15 grams Rumensin per ton in ewes' grain ration 6 weeks prior to lambing and during lactation. (Unapproved).

Lambs: 15 grams Rumensin per ton of creep feed and other rations until market. (Unapproved).

Treatment - Sulfamethazine 1 grain per pound body weight for 3 days, skip 3 days, repeat treatment 2 days if necessary.

Overeating Disease Type C (In young lambs nursing the ewe) - If an outbreak occurs, use Type C antitoxin and a 250-mg. tetracycline HCL capsule at birth.

Prevent by vaccinating the ewes for type C overeating before they lamb. If ewes have never been vaccinated before, vaccinate at mid-gestation and again 3 to 4 weeks before the ewes lamb. Then vaccinate only once in following years 3 to 4 weeks prior to lambing.
Overeating Disease Type D - To prevent, vaccinate lambs at 5 weeks and again at 8 weeks. Also feeding tetracyclines will aid in preventing type D overeating (20 grams/ton).

Outbreak - vaccinate and feed tetracyclines in the feed.

Tetanus - If it has been a problem on your place, then inject a combination of tetanus toxoid and long-acting penicillin at docking and castrating time.

Sore Mouth - If it has been a problem on your farm, vaccinate the lambs at the same time as you dock and castrate.

Vibrio - Vaccinate ewes at breeding and again at mid-gestation if the ewes have never been vaccinated before. Then in following years, just one shot at mid-gestation is all that is needed. Now recommending three injections in ewe lambs; breeding, 30 days and mid-gestation.

Urinary Calculi (Water Belly) - To prevent, add 1 to 2% feed limestone to your lamb feed mixture.

Outbreak - Add 5 to 10 pounds Ammonium chloride to a ton of feed.

Pregnancy Disease - The best way to prevent is to feed the ewes better the last 4 to 6 weeks of pregnancy. If a ewe does come down with pregnancy disease, give her 2 ounces of Propylene Glycol three or four times a day.

Mastitis - Sulfamethazine at the rate of 1 grain per pound body weight. Inject Oxytetracycline-mastitis tubes (Ceph Lak).