

# Virginia Cooperative Extension

A partnership of Virginia Tech and Virginia State University



**Animal & Poultry Sciences (0306)**  
366 Litton Reaves  
Blacksburg, Virginia 24061  
540/231-9159 FAX 540/231-3713  
E-mail: sgreiner@vt.edu

## Livestock Update

***Beef - Horse - Poultry - Sheep - Swine***

**May 2010**

This LIVESTOCK UPDATE contains timely subject matter on beef cattle, horses, poultry, sheep, swine, and related junior work. Use this material as you see fit for local newspapers, radio programs, newsletters, and for the formulation of recommendations.

### **IN THIS ISSUE:**

Dates to Remember .....	1
May Beef Management Calendar .....	2
Winter Memories and Forage Plans .....	3
Health Guarantees for Feeder Cattle .....	5
2010 Virginia BCIA Southwest Bull Test & BCIA-Influenced Virginia Premium Assured Plus Bred Heifer Sale Report .....	7
Sheep Parasite Management Strategies .....	10

**Scott P. Greiner, Extension Project Leader**  
Department of Animal & Poultry Sciences

[www.ext.vt.edu](http://www.ext.vt.edu)

Extension is a joint program of Virginia Tech, Virginia State University, the U.S. Department of Agriculture, and state and local governments.

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. An equal opportunity/affirmative action employer.

## **Dates to Remember**

### **BEEF**

#### **MAY**

21-22 Angus Boot Camp, Alphin Stuart Arena. **Contact:** Mark McCann, (540) 231-9153, email: [mmccnn@vt.edu](mailto:mmccnn@vt.edu)

### **GENERAL**

#### **OCTOBER**

29 16<sup>th</sup> Annual Hokie Harvest Sale. Alphin-Stuart Arena. VA Tech Campus. Blacksburg.  
**Contact:** Dan Eversole (540) 231-4738, email: [deversol@vt.edu](mailto:deversol@vt.edu)

### **HORSE**

#### **MAY**

12-14 Technical Large Animal Emergency Rescue Training. MARE Center. Middleburg.  
**Contact:** Shea Porr, (540) 687-3521, ext. 27, email: [cporr@vt.edu](mailto:cporr@vt.edu)

17-19 Technical Large Animal Emergency Rescue Training. MARE Center. Middleburg.  
**Contact:** Shea Porr, (540) 687-3521, ext. 27, email: [cporr@vt.edu](mailto:cporr@vt.edu)

#### **SEPTEMBER**

16-19 State 4-H Horse and Pony Show. Virginia Horse Center. Lexington, VA  
**Contact:** Celeste Crisman, (540) 231-9162, email: [ccrisman@vt.edu](mailto:ccrisman@vt.edu) or Joi Saville, (540) 231-2257, email: [joi.saville@vt.edu](mailto:joi.saville@vt.edu)

### **SHEEP**

#### **AUGUST**

28 Virginia Performance Tested Ram Lamb Sale. Shenandoah Valley AREC. Steeles Tavern.  
**Contact:** Scott Greiner, (540) 231-9159, email: [sgreiner@vt.edu](mailto:sgreiner@vt.edu)

## **May Beef Management Calendar**

Dr. Scott P. Greiner

Extension Animal Scientist, VA Tech

### **Spring Calving Herds**

- Finish calving
- Give pre-breeding vaccinations to cows – IBR, PI3, BVD, BRSV and Lepto.
- Begin estrous synchronization programs for AI
- Breed heifers 2 to 4 weeks before cows
- Solicit veterinarian to give breeding soundness exams to all bulls
- Supplement 1st calf heifers with energy through breeding
- Implant calves at turnout if not implanted at birth
- Keep high quality, high magnesium, high selenium minerals available
- Make 1st cutting of hay
- Implement grazing management strategies

### **Fall Calving Herds**

- Creep graze calves while on cows
- Evaluate marketing options for calves- sale season, weaning/backgrounding strategy, retained ownership
- Vaccinate calves according to weaning and marketing schedule
- Wean calves based on marketing plan for calves (most value-added sales require 30+ days weaning prior to marketing)
- Implant calves at turnout
- Deworm calves if needed
- Make 1st cutting of hay
- Continue feeding high magnesium minerals to prevent grass tetany

## Winter Memories and Forage Plans

Dr. Mark A. McCann

Extension Animal Scientist, VA Tech

What a great spring for grass and cattle. The quick and sudden warm-up that followed the snowy winter resulted in some flooding and plenty of mud; but it also accelerated early grass growth. The quick changeover from snow cover to grass was surprising and appreciated by all. Outlooks and plans for the future seem to be most influenced by our most recent experiences. As we look ahead to the summer forage season, we need to objectively evaluate the successes and failures of the past winter and recall that it was the snowiest of the past 10-15 years. With that in mind, I offer a few topics for consideration.

- 1) Stockpile tall fescue- Although the season to begin this management practice is months away, a successful strategy of incorporating it into a farm forage plan needs to begin early. Our recent memory in regard to stockpiled forage this past winter was the difficulty of utilizing it when covered by 12+ inches of snow. Many producers, who regularly stockpile, fed more hay during the winter months of unusual snow cover. They also reported when the snow left in March the stockpiled grass was still there and reduced late winter/early spring hay needs. Budgets that we work through on cow-calf enterprises always favor the investment in stockpiling fescue to furnish forage in lieu of harvested hay.  
**Take home message.** *Stockpiling tall fescue should be incorporated into summer hay and grazing plans. The recent winter demonstrated that you can graze it early or graze it late but it still makes a positive contribution to cow nutrition and economics.*
- 2) Quality hay production- Many producers will begin harvesting their first cutting of hay in the next 30 days. Reviewing the body condition of many cows across the commonwealth it would appear that a lot of hay was fed that fit the quality classification of “better than a snowball”. Tough winters make us grateful too many times to simply get the cows full. Later evaluation of condition scores, pregnancy rates and weaning weights could tell a different story.  
**Take home message.** *Always aim high in targeting hay quality. There is a tradeoff with quantity but the payback is always evident in cattle performance and the value is truly realized when you reduce or eliminate the need for supplemental feed. A forage test will allow identification of your nutritionally superior and less than desirable hays soon after harvest and allow plans for when the hay best matches your cow needs.*
- 3) Hay storage- The final point is hay storage. This past winter, the snow depth and cold temperatures provided additional challenges to feeding hay stored outside. We had good success at the Virginia Tech Kentland farm with the use of hay tarps to expand the amount of hay we kept dry. Although they require some additional labor and patience they were effective in reducing hay loss. Storing hay under cover can reduce hay needs by 20%. In view of the current hay production costs, the economic return of hay storage is greater.  
**Take home message.** *Another way to reduce hay production needs for the cow herd is to expand your hay storage capability. Beyond seasonal weather loss, hay stored under cover is not the same perishable commodity that it is when stored outside.*

Enjoy our green pastures and hay meadows, but be strategic about their use. The three age old tips above were valuable last winter and will be again next winter regardless of what Mother Nature brings our way.

## Health Guarantees for Feeder Cattle

Dr. W. Dee Whittier

Extension Veterinarian, Cattle: VA Tech

Many times when cattle change hands there is some expectation of a certification of health regarding the purchased cattle. However, these “guarantees” of health are somewhat ill defined. One of the major questions about health guarantees relates to the sales of feeder cattle.

The major disease of feeder cattle is shipping fever. Sometimes this condition is called pneumonia, respiratory disease or “respiratory disease complex”. It is important to understand how difficult to conquer this disease has been. Despite the development through the years of many vaccines, antibiotics and other treatments the disuse continues to be a major factor in our commercial cattle industry. This is, in part, because it has so many contributing factors.

All of the following have been shown to have a role in the development of shipping fever pneumonia:

- Mixing of cattle
- Hauling of cattle
- Weaning
- Changing nutrition
- Too much grain resulting in acidosis
- Infections of the viruses in common vaccines: IBR, BVD, PI3, BRSV
- Infections of bacteria such as *Manheimia*, *Pasteurella* and *Haemophilus*
- Infections with any number of other viruses for which there are no vaccines, some related and similar in their role to the human “cold” virus
- Infections with *Mycoplasma*
- Mineral deficiencies
- Changes in weather
- Others

With all those contributors, it becomes obvious that no one would be able to control all the factors that could result in calves getting pneumonia. So it would be fool hardy to “guarantee” that feeder calves will not get sick. But that doesn’t mean that some don’t imply or expect a lot more than is realistic. Beware if someone is promising that calves won’t get sick if you just do “\_\_\_\_\_”.

So here are some things that are sometimes guaranteed:

- A guarantee that vaccinations have been given and handlings like 45-day weaning have been done properly is a reward for buying high quality cattle. This is a lot better than a call from the auction box of, “They’ve had all their shots.” The VQA program uses a third party (Extension Agent, Vet, etc.) to verify that procedures have been done. They never have nor will guarantee that calves won’t get sick!
- Some companies guarantee some support if there are problems. Promises to do autopsies, collect and analyze samples, and provide expert opinions are very valuable but they are not promises to buy dead animals, buy drugs needed for treatment or pay for veterinary services.

- Some products guarantee that animals will respond to a vaccine. But a guarantee that steers will have antibodies to IBR, for example, is far from a guarantee that there will be no respiratory disease.

Both buyers and sellers of feeder cattle will do well to be very exacting in assessing guarantees. Buyers should not over interpret what is guaranteed and sellers should be very careful not to promise what they are neither willing nor able to deliver.

## **2010 Virginia BCIA Southwest Bull Test & BCIA-Influenced Virginia Premium Assured Plus Bred Heifer Sale Report**

Dr. Scott P. Greiner  
Extension Animal Scientist, VA Tech

The 31<sup>st</sup> Annual Southwest Virginia Performance Tested Bull Sale sponsored by the Virginia Beef Cattle Improvement Association was held Saturday, March 27, 2010 at Wytheville. The 127 bulls offered commanded an average price of \$2232 per head. Breed averages were as follows: 81 Angus averaged \$2226, 14 purebred Simmental averaged \$2129, 17 Simmental Hybrids \$2682, 6 Charolais \$1517, 4 Gelbvieh Balancers \$2400, 4 purebred Gelbvieh \$1725, and 1 Polled Hereford at \$2150. The BCIA-influenced Virginia Premium Assured plus Bred Heifer Sale held in conjunction with the bull sale sold 24 heifers for an average price of \$1308 per head.

The strong sale was paced by the high indexing Senior Angus bull, Lot 73, bred by J & M Windy Acres, Mike Connatser of Maryville, TN. This December 2008 son of SS Objective T510 OT26 sold to Robert Myers of Draper, VA for \$5000. His EPDs of +12.0 CED, +118 YW, +31 MM, and +\$37.85 \$W all rank in the top 5% of the breed. In addition, this bull had an adjusted yearling weight of 1447, ratio 128, making him the top growth bull in the test.

The second high selling Angus bull was Lot 7, consigned by Edgewood Angus, Pete Henderson of Williamsburg, VA and selling to Alan Graybeal of Blacksburg, VA for \$4000. This calving ease son of Mytty In Focus had CED EPD +11, BW EPD +0.7, WW EPD +53 and YW EPD +100, in addition to ADG ratio of 119 and had an adjusted YW of 1215. Edgewood Angus also consigned Lot 3, a calving ease son of ALC Big Eye D09N, which brought \$3800 and was sold to Bobby and Martha Jackson of Draper, VA.

Echo Ridge Farm of Atkins, VA was recognized with the Breeder Group Award for their consignment of Angus bulls in the Senior Test. Their Lot 13 led this consignment group, selling for \$3500 to Bobby and Martha Jackson of Draper, VA. This son of GAR Prime Design posted YW EPD +91, MB EPD +0.50 and \$B +55. Echo Ridge Farm also consigned the high-indexing Junior bull, Lot 96, which commanded \$3200 from Dean Pratt of Draper, VA. This bull was also a son of GAR Prime Design and gained 4.06 on test and had an adjusted YW of 1280 pounds which was backed by a WW EPD +50, YW EPD +92, MM of +28, and IMF EPD +0.58.

Legacy at Pine Hill Farm consigned Lot 122, which sold to Aubra Paul Dean of Jonesville, VA for \$3500. This attractive son of SAV Final Answer 0035 posted EPDs of +13 CED, -1.4 BW, +103 YW along with ratios of 107 and 113 for YW and ADG. Grassy Valley Farm, Lee Duckworth from Greenville, TN received the Junior test Breeder Group Award. Lot 129, sired by Boyd Forward 6025, was their lead bull which sold for \$3100 to Kenneth Blackwell of Floyd, VA.

Demand was particularly strong for the SimAngus bulls, which were paced by Lot 431 consigned by Hounshell Farms of Wytheville, VA. This September-born homozygous black son of Triple C Invasion R47K brought \$4500 and sold to Warner Farms, Mark Warner of Dailey, WV. He posted a test ADG of 3.26 pounds, along with EPDs of +62.9 YW, +0.45 MB and +0.18 REA. J&M Windy Acres consigned a pair of homozygous black SimAngus bulls sired by GAR Predestined. Lot 436, the top indexing Senior Simmental Hybrid brought \$3600 and sold to Hoot Owl Farm and



Laurel Hill Farm of Amelia, VA. Lot 435 commanded \$3500 from James Gregory of Java, VA. This pair of bulls excelled in growth and carcass merit. Another SimAngus from J&M Windy Acres, Lot 448, sold to Kenneth Anderson of Culpeper, VA for \$3000. Sunny Heights Simmental, Jesse Webster of Vinton, VA sold a SimAngus sired by ALC Big Eye D09N, Lot 441, for \$3100 to Aubra Paul Dean of Jonesville, VA.

A sale highlight were the purebred Simmentals, which were led by Lot 411, consigned by Virginia Tech of Blacksburg, VA and selling to Clyde Cutlip of Warm Springs, VA for \$3300. This high performing February-born, homozygous black son of SVF/NJC Mo Better M217 had a test ADG of 4.21, ratio of 132, along with an adjusted YW and ratio of 1261 and 110, respectively. Huckleberry Hill, Matthew and Sara Miller of Rural Retreat, VA had the top indexing Junior Simmental bull with Lot 421 which sold to Aubra Paul Dean of Jonesville, VA for \$3000. This growth and carcass bull sired by CNS Dream On L186 posted EPDs of +10.8 CED, +69.1 YW, +0.24 MB and +0.32 RE in addition to YW and ADG ratios of 110 and 108. Virginia Tech also sold Lot 410 Junior Simmental for \$3000 to J. H. Carter of Pearisburg, VA. Sired by Sand Ranch Hand, this bull had a CE EPD of +11.4, BW EPD -1.7, MB EPD +0.26, REA EPD +0.26, and an API of 121. Lot 405 also demanded \$3000 and was sold to Leonard Noonkester of Lowgap, NC. This Senior bull consigned by Rocky Hollow Simmental, Tommy Cline of Wytheville, VA was sired by SVF Star Power S802.

The top selling Gelbvieh lots were Lot 617 and 616, both Balancers bred by Little Windy Hill Farm of Max Meadows, VA and selling to Gale Rippey of Galax, VA for \$2800 and \$2600, respectively. Lot 617 is a homozygous black son of KCF Bennett 208 S102 and had an adjusted YW of 1276, YW EPD +94, MB EPD +0.08 and RE EPD +0.15. Lot 616, another homozygous black high growth bull is a son of GAR Predestined and posted EPDs of +98 YW, as well as carcass EPDs of +0.08 MB and 0.20 RE.

The BCIA-Influenced Bred Heifer Sale consisted of 24 fall-calving commercial bred heifers. All heifers were designated as Virginia Premium Assured Plus females. Demand was strong and prices steady, as the heifers averaged \$1308 per head. Hillwinds Farm of Dublin, VA consigned Lot 7 to top the sale at \$1550 each and selling to Leonard Noonkester of Lowgap, NC. This trio of AI-sired heifers due to calve in October were bred to LWHF Objective 232T. Lots 1 and 2 from Hillwinds Farm sold for \$1450 per head. Lot 1 consisted of a single entry bred to Rito 2X15 of Rita 8Z22 EXP and went to Mountain Vista L & L of Eggleston, VA. Lot 2 was sold to Leonard Noonkester and consisted of a pair of heifers AI-bred to calve in September.

All bulls and heifers were consigned by members of the Virginia Beef Cattle Improvement Association. Bulls were developed at Hillwinds Farm at Dublin, VA owned and operated by Tim Sutphin. The sale was managed by Virginia BCIA and the Virginia Cattlemen's Association, and the auctioneer was Mike Jones.

Virginia BCIA and the Southwest Bull and Heifer Sale consignors would like to thank the Bank of Marion, Farm Credit Country Mortgages, First Bank AgCredit, Genex Cooperative Inc., Select Sires, and Southern States for their sponsorship.

Special thanks to all the bull and heifer buyers at the 2010 Southwest Virginia BCIA Sale:

Akers Farm, Dublin, VA  
Alan Graybeal, Blacksburg, VA  
Aubra Paul Dean, Jonesville, VA  
Banners Farm, Castlewood, VA  
Bar C Farm, Lebanon, VA  
Barry Nunley, Bluefield, VA  
Belcher Farms Angus, Pound, VA  
Ben F. Fore, Glade Spring, VA  
Bill Rice, Sutherlin, VA  
Blaine Myers, Cedar Bluff, VA  
Bobby & Martha Jackson, Draper, VA  
Bundy Farm, Lebanon, VA  
C.R. Tanner & Sons, Madison, VA  
C.G. Dishman, Bristol, VA  
Caldwell Farms, Pipestem, WV  
Cedar Hill Farm, Newport, VA  
Charles J. Cox, Wytheville, VA  
Charles Wise, Bridgewater, VA  
Clyde Cutlip, Warm Springs, VA  
Cox Farms, Allisonia, VA  
Craig H. Whittaker, Pearisburg, VA  
David A. Parsons, Sugar Grove, VA  
David Smith, Amelia, VA  
Dean Kelley Pratt, Draper, VA  
Deer Haven Farm, Narrows, VA  
Donna Haldane, Mt. Jackson, VA  
Double D Farm, Max Meadows, VA  
Douglas R. Taylor, Elizabethton, TN  
E.G. Jessee, Castlewood, VA  
Ernie Calvin Burton, Castlewood, VA  
Fred D. Conner, Marion, VA  
Gale C. Rippey, Galax, VA  
Gary Thomas, Abingdon, VA  
George J. Wright, Galax, VA  
Gillespie Cove Farm, Tazewell, VA  
Greg Dale McGrady, Dugspur, VA  
Gregory G. Southers, Princeton, WV  
Hoot Owl Hollow Farm, Amelia, VA  
J. Mike Cassell, Wytheville, VA  
J.S. Staley, Marion, VA  
J.H. Carter, Petersburg, VA  
James B. Gregory, Jr., Java, VA  
James Gary Munsey, Bland, VA  
Jason Hash, Independence, VA  
Jeff David Hanks, Max Meadows, VA

Jeffrey Hagy, Wytheville, VA  
Jerry W. Edwards, Ennice, NC  
Jett Farms, Inc., Orange, VA  
John C. Kimbler, Ft. Blackmore, VA  
John H. Crowgey III, Wytheville, VA  
John N. Mills & Sons, Mechanicsville, VA  
Julie D. Sloop, Bland, VA  
KD Farms, Broadford, VA  
Kenneth L. Anderson, Culpeper, VA  
Kenneth W. Blackwell, Floyd, VA  
Kent Oak Farms, Wytheville, VA  
Kidd Farms, Ceres, VA  
Kimbler & Sons, Ft. Blackmore, VA  
L & G Circle T Farm, Christiansburg, VA  
Leonard Noonkester, Lowgap, NC  
Mark Richardson, Marion, VA  
Marvin S. Williams, Wilkesboro, NC  
Mitchell J. Cox, Independence, VA  
Mountain View Dairy, Goode, VA  
Mountain Vista L & L, Eggleston, VA  
Oak Manor Farms, Fairlawn, VA  
Oatie E. Leath, Galax, VA  
Penn Virginia, Kingsport, TN  
Philip W. Faucette, Brown Summit, NC  
Randall M. Nester, Pilot, VA  
Randy L. Dunmon, Pilot Mountain, NC  
Randy P. Largen, Hillsville, VA  
Reed Farms, Princeton, WV  
Richard Goode, Moseley, VA  
Robert Allen Mustard, Bland, VA  
Robert Henry Myers, Draper, VA  
Shrader Farm, Newport, VA  
Stuart G. Pratt, Draper, VA  
Terry Lee Hall, Ennice, NC  
Timothy D. Sutphin, Dublin, VA  
Tom Covey, Radford, VA  
Tommy Umbarger, Bastian, VA  
Triple B Farms, Inc., Pinnacle, NC  
Twin Oaks Farm, Grundy, VA  
Valley View Farm, Bland, VA  
Waddle Angus Farm, Chilhowie, VA  
Warner Farms, Dailey, WV  
Wayne Woodyard, Dublin, VA  
William C. Henderson, Pearisburg, VA

## **Sheep Parasite Management Strategies**

Dr. Scott P. Greiner

Extension Animal Scientist, VA Tech

As sheep producers we welcome the onset of spring with return of the flock to pasture and access to lush forages. Along with this, however, we recognize that parasite season is also upon us. The most significant health issue faced by sheep producers is internal parasites. Throughout the U.S., and especially in the mid Atlantic and southern states, the most important member of this family is the barber pole worm (*Haemonchus contortus*). The barber pole worm is a bloodsucking parasite found in the stomach. Infected sheep become anemic, leading to poor performance and frequently death. Bottle jaw is a classic symptom of *H. contortus* infection; along with loss of condition, weakness, and rough appearance (parasitic infection may or may not be accompanied by diarrhea).

Control of internal parasites has been complicated by the development of resistance to many of the dewormer drugs available. This resistance has been brought about by several factors, including improper use of dewormers. Our dependence on dewormers as the primary mechanism to control parasites has resulted in prolonged exposure of the parasites to the drugs, and over time the parasites have developed resistance. Overuse and improper use of dewormers also contributes to development of resistance, and over time parasites which are susceptible to the dewormers have been killed off leaving a population of parasites which are highly resistant. This extent of resistance will vary greatly from farm to farm. Given the prevalence of drug resistant worms, and lack of new products entering the market in the near future, parasite control programs must utilize alternative strategies in combination with dewormers to control parasites. These strategies are important even for flocks which do not have a resistance problem, as they will slow the development of resistance and prolong effective use of dewormers.

The following outlines several factors regarding an integrated approach to parasite control:

### **Pasture Management and Grazing Strategies**

The life cycle of the worm involves the shedding of eggs in the feces of the sheep. Given the right environmental conditions (warm and humid), these eggs hatch and the larvae migrate up the blades of forage and are then ingested by grazing sheep. The majority of the larvae are found in the first 2 inches of forage. Consequently, grazing management strategies which minimize overgrazing and leave a residual amount of forage (>2 in.) are conducive to reducing parasitism. Stocking rates are closely related to these factors, and flocks which have lower stocking densities tend to have lower parasite loads. This is a result of less grazing pressure, and the dilution effect of having fecal eggs and resulting larvae spread out over a larger land area.

The use of clean pastures has long been a strategy to control parasites. A clean pasture is one that is not contaminated with parasite larvae. This may be a pasture that has been cut for hay, grazed by another species (cattle or horses), or rested. Recent research indicates that the rest period needs to be at least 3 months, and 6-12 months in some cases. Most farms lack the acreage to rest pastures this amount of time.

Multi-species grazing of sheep with cattle or horses is an additional strategy that can be implemented. Since the parasites that affect these species are different, co-grazing helps to reduce the population of infective larvae available to the sheep since some of the population is consumed by cattle (and therefore do not propagate).

### **Proper Use of Dewormers**

Dewormer products available for sheep fall into three drug classes:

- Benzimidazoles- includes albendazole (Valbazen) and fenbendazole (Safeguard)
- Macrolides- includes ivermectin (Ivomec) and moxydectin (Cydectin)
- Nicotinics- includes levamisole (Tramisol, Prohibit)

Resistance has been documented in all of the above drug classes, and commonly reported for the white dewormers (albendazole, fenbendazole) and ivermectin. The only definitive way to determine if a flock has resistance is to conduct a fecal egg count reduction test, which will objectively determine the effectiveness of a particular dewormer in the flock. This test can be performed with the assistance of a veterinarian or extension agent.

Ideally, dewormers should be rotated on a yearly basis, using a product from different drug class each grazing season. This is becoming more challenging with the development of resistance, and reduced market availability of levamisole.

When administering dewormers, be sure to accurately dose the animal, which requires accurate assessment of weight. Always dose for the heaviest animal in the group. Deworming sheep on an empty stomach may assist in the effectiveness of the deworming. Hold sheep off feed or pasture 24 hours prior to treatment (do not withhold water).

### **Strategic and Selective Deworming**

To effectively control parasites we have evolved our approach from deworming all animals at regular intervals, to a strategic approach in which we deworm less frequently and concentrate on high-risk animals. The most recent approach includes strategic deworming, which involves evaluating and treating individual animals based on their parasite load.

As compared to ewes, lambs are at much higher risk of parasitism as a result of less immunity. The previously mentioned grazing strategies are important particularly with grazing ewes nursing lambs. Stocking rate and forage management in conjunction with well-timed dewormings should be utilized for this production group. Lambs will exhibit the effects of parasitism well before ewes, so monitoring of grazing lambs should guide treatment protocols. Weaning and grazing lambs separate from mature sheep assists in parasite management for both groups of sheep. When separated, lambs should graze “cleaner” pastures with more forage availability.

It has been demonstrated that within a flock, there is a relatively small percentage of the sheep which shed the majority of the worm eggs. Methods which identify these problem animals and eliminate them from the flock assist in controlling parasites and reducing resistance. Animals which are chronically wormy are good candidates to cull.

An important step in controlling the development of resistance is to reduce the number of deworming treatments. By reducing the number of treatments, the goal is to reduce the number of worms that are exposed to the drug and thereby become resistant. The FAMACHA system has been developed for this purpose, and utilizes color of the eye membranes to assess anemia (related to parasite load), and allows for treatment decisions to be made on an individual animal basis. To implement FAMACHA, producers need to attend an educational session to obtain training and the eye color chart used as the decision-making tool. Contact your local extension agent for details regarding training.

FAMACHA also provides a mechanism for identifying and selecting both parasite resistant and highly susceptible sheep. Since each animal is scored individually, keeping records over time will assist producers in identifying the genetics in their flock which are problematic and/or most adaptable to their parasite management program.

### **Summary**

Managing parasites is essential to sheep enterprise profitability. A number of strategies are available which reduce the dependence on dewormers, and implementation of these strategies is necessary to address drug resistance which has become widespread in recent years. Each flock will be unique in the techniques which equate to a successful parasite management program. Forage and grazing management and prudent use of dewormers need to be matched to the production system and resources of an individual farm. Stocking rate, forage quantity and quality, grazing practices, and flock genetics are all contributing factors which will impact a planned parasite control management program.