

Livestock Update

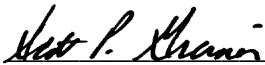
Beef - Horse - Poultry - Sheep - Swine

June / July 2014

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.

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

Invent the Future

Dates to Remember

HORSE

JULY

28 thru 8/2 Southern Regional 4-H Horse Championships. Raleigh, NC.
Contact: Celeste Crisman, (540) 231-9162 or email: ccrisman@vt.edu

SEPTEMBER

11-14 State 4-H Horse Show. Virginia Horse Center, Lexington, VA.
Contact: Celeste Crisman, (540) 231-9162 or email: ccrisman@vt.edu or
Jessica Tussing, (540) 231-6345 or email: jessit07@vt.edu

SHEEP

AUGUST

23 Sheep Field Day, Performance Tested Ram Lamb Sale and Replacement Ewe Lamb Sale. Shenandoah Valley AREC. **Contact:** Scott Greiner (540) 231-9159; email: sgreiner@vt.edu
30 Virginia Tech Sheep Center to Host 15th Annual Production Sale. Alphin-Stuart Livestock Arena. **Contact:** Scott Greiner (540) 231-9159; email: sgreiner@vt.edu

SEPTEMBER

27 Southwest AREC Education Field Day and Ram Sale. Glade Spring. **Contact:** Lee Wright, (276) 944-2200; email lrite@vt.edu or Scott Greiner (540) 231-9159; email: sgreiner@vt.edu

June Herd Management Advisor

Scott P. Greiner & Mark A. McCann
Extension Beef Specialists, Virginia Tech

June normally marks the conclusion of harvesting the first cutting of hay and hoping for rain to stimulate regrowth. Equal attention should be given to pasture management in an effort to minimize future hay consumption. Pasture management now can impact future forage growth and vigor. Research has repeatedly shown that rotational grazing which insures a rest period can make grasses more productive. Generally 3-4 weeks of rest is recommended. That means weekly rotation among four pastures can accomplish the desired rest period. Rotational grazing does require some planning, time and inputs but the return is 25-33% more forage and cows that are at the gate when you rotate pastures. Other benefits include enhanced forage diversity, reduced cattle trails, better distribution of nutrients, and improved ground cover of sensitive areas.

Although the official start of summer isn't until the 21st of the month, summer conditions have already made an appearance. Pasture rotation during the summer months will guarantee a rest period for forages yielding a more productive, diverse pasture. Hot weather also signals the onset of fly season. Delaying fly tag application in early summer extends protection into the warm days of early fall.

Spring Calving Herds (January-March)

General

- Focus on forage management, pasture rotation, cow nutrition and young calf health.
- Manage first-calf heifers separately; give them best forage and supplement
- Cattle comfort should be monitored ensuring adequate shade and availability of clean water

Nutrition and Forages

- Continue feeding high magnesium minerals to prevent grass tetany; may be able to switch to high Se mineral as grass matures.
- Complete harvest of first cutting hay early in month
- Start grazing warm season grasses
- Implement rotational grazing management system which will provide a rest period for pastures.
- Cool season grasses are now mature; if weather conditions are dry delay pasture clipping until there is adequate soil moisture for forage regrowth.
- Make plans to store your high quality hay in the dry.
- Collect and submit forage samples for nutrient analysis.

Herd Health

- Implement parasite and fly control program for herd. Delay application of fly tags until a threshold of about 100 flies per side
- Administer mid-summer deworming and implant calves late in month or early next month

- Plan vaccination and preconditioning protocol for calf crop.
- Castrate commercial calves if not done at birth, consider castrating bottom end of male calves in seedstock herds.

Reproduction

- Finish AI; turn out clean-up bulls
- Remove bulls from replacement heifers after 45 day breeding season
- Make plans to pregnancy check heifers as soon as possible after bull removal. This will allow options in marketing open heifers.
- Use 48 hour calf removal for thin cows and first-calf heifers at beginning of breeding season
- Monitor bulls closely during the breeding season. Observe frequently to confirm breeding performance and soundness, and monitor cows for repeat estrus. Avoid overworking young bulls (a rule of thumb- yearling bulls should be exposed to number of cows equal to their age in months).

Fall Calving Herds (September-November)

General

- Plan a marketing strategy for open cows. Cull cow prices typically peak mid-spring through mid-summer, and prices generally stronger for cows in good body condition vs. thin cows (evaluate forage availability and potential feed and management costs to increase BCS of cull cows if warranted).
- Finalize marketing plans for calf crop. Time weaning, vaccination program, and weaning management to meet operational goals. Calculate break-evens on various marketing options and consider risk management strategies.
- Reimplant commercial calves.

Nutrition and Forages

- Switch to high selenium trace mineral salt
- Body condition score cows. Plan nutrition and grazing program based on BCS. This is the most efficient period to put weight and condition on thin cows
- As calves are weaned move cows to poorer quality pastures.
- Use palatable feeds during the weaning period to bunk train calves and minimize weight loss.
- Reserve high quality hay and a pasture area for calves post-weaning.
- Start grazing warm season grasses

Herd Health

- Administer mid-summer deworming on replacement heifers and pregnant heifers
- Implement parasite and fly control program for herd. Delay application of fly tags until a threshold of about 100 flies per side.

- Consult with veterinarian on vaccination protocol for calf crop. Design vaccination and weaning program around marketing goals and objectives. Vaccinate, wean, and certify calves to be marketed in late summer

Genetics

- Identify replacement heifers. Utilize available tools including genetics, dam performance, individual performance, and phenotype. Restrict replacement heifer pool to those born in defined calving season.
- Finalize plans for post-weaning development and marketing of bulls in seedstock herds.

July Herd Management Advisor

Scott P. Greiner & Mark A. McCann
Extension Beef Specialists, Virginia Tech

July moves us into the middle of summer which is a period of time when our chores with the cattle are typically minimal. However, one of those regular chores is keeping mineral out for the herd. Placement of mineral feeders can assist in more uniform pasture utilization by placing feeders well away from water sources and locating them in areas where cattle spend less time grazing. Another key consideration is composition of the mineral provided to the herd. Grass tetany season has passed, so there is no benefit of providing a Hi-Mag mineral. Our region of the country is deficient in Selenium, so whether you provide a trace mineral salt or a complete mineral mix, it should be fortified with Selenium. Historically, phosphorus has been a mineral of focus but recent research at Virginia Tech would suggest that well fertilized pastures are adequate in phosphorus and do not require additional supplementation. The research also demonstrated that providing higher levels of phosphorus above requirements resulted in more phosphorus being excreted. Pastures which have not received manure or commercial fertilizer could be low in phosphorus. Mineral analyses of some forage grab samples are the best way to determine if phosphorus or other minerals are adequate for your cow herd.

Spring Calving Herds (January-March)

General

- Focus on breeding season, forage management, and calf health.
- Manage first-calf heifers separately; give them best forage and supplement

Nutrition and Forages

- Switch from high-mag minerals to high Se mineral as grass matures.
- Manage growth of warm season grass pastures by rotational grazing
- Implement rotational grazing management system which will provide a beneficial rest period for pastures. July can be a challenging forage management month. Depending on moisture, cattlemen are either trying to extend the utilization of mature early forage growth or if moisture is abundant, manage the growth of warm season forages
- Store your high quality hay in the dry.
- Collect and submit forage samples for nutrient analysis.

Herd Health

- Implement parasite and fly control program for herd.
- Administer mid-summer deworming and implant
- Consult with your veterinarian for a pinkeye control and treatment program
- Plan vaccination and preconditioning protocol for calf crop.
- Castrate commercial calves (if not done at birth), consider castrating bottom end of male calves in seedstock herds.

Reproduction

- Remove bulls from replacement heifers after 45 day breeding season
- Make plans to pregnancy check heifers as soon as possible after bull removal. This will allow options in marketing open heifers.
- Monitor bulls closely during the breeding season to confirm breeding performance and soundness, and monitor cows for repeat estrus. Avoid overworking young bulls (a rule of thumb- yearling bulls should be exposed to number of cows equal to their age in months).
- Remove bulls after 60 days for controlled calving season

Fall Calving Herds (September-November)

General

- Wean calves to allow ample opportunity for cows to replenish BCS prior to calving.
- Finalize marketing plans for calf crop. Time weaning, vaccination program, and weaning management in concert with marketing plans. Calculate break-evens on various marketing options and consider risk management strategies.
- Market open cows. Cull cow prices typically peak mid-spring through mid-summer, and prices generally stronger for cows in good body condition vs. thin cows (evaluate forage availability and potential feed and management costs to increase BCS of cull cows if warranted).

Nutrition and Forages

- Switch to high selenium trace mineral salt
- Body condition score bred females. Plan nutrition and grazing program based on BCS. This is the most efficient period to put weight and condition on thin cows
- Reserve high quality hay and a pasture area for calves post-weaning.
- Manage growth of warm season grass pastures by rotational grazing
- Implement rotational grazing management system which will provide a beneficial rest period for pastures. July can be a challenging forage management month. Depending on moisture, cattlemen are either trying to extend the utilization of mature early forage growth or if moisture is abundant, manage the growth of warm season forages
- Store your high quality hay in the dry.
- Collect and submit forage samples for nutrient analysis.

Herd Health

- Administer mid-summer deworming on replacement heifers and pregnant heifers
- Implement parasite and fly control program for herd.
- Consult with your veterinarian for a pinkeye control and treatment program
- Implement vaccination protocol for calf crop. Design vaccination and weaning program around marketing goals and objectives. Vaccinate, wean, and certify calves to be marketed in late summer
- Reimplant commercial calves.

Genetics

- Identify replacement heifers. Utilize available tools including genetics, dam performance, individual performance, and phenotype. Restrict replacement heifer pool to those born in defined calving season.
- Finalize plans for post-weaning development and marketing of bulls in seedstock herds.

Virginia BCIA Central Bull Test Program Summary 2013-14

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

The 56th year of the Virginia Beef Cattle Improvement Association's state central bull test program proved to be historic with bull value at all-time program highs. The 2013-14 test and sale year included the development of 278 total bulls, with 190 bulls selling through two sales for a record average price of \$3531. This average price exceeds the previous program record of \$3318 received in 2011-12.

A bull test program near Culpeper has been operated for 56 consecutive years and is currently conducted at Glenmary Farm, Tom and Kim Nixon owners, of Rapidan. In the fall-born Senior group at Culpeper, 87 bulls were developed. The Southwest Bull Test was in operation for the 32nd year, with development of the bulls provided by Hillwinds Farm, Tim and Cathy Sutphin of Dublin. The bulls evaluated at the Southwest station included 87 fall-born Senior bulls and 104 spring-born Juniors. The 278 bulls evaluated included 191 Angus, 34 SimAngus, 25 Purebred Simmental, 10 Hereford, 8 Gelbvieh Balancers, 5 Gelbvieh, 4 Charolais and 1 Red Angus.

Two sales were held for eligible bulls. The Culpeper Senior sale was held in mid-December and the Southwest sale at Wytheville in late March. The following table presents sale averages by breed. Of the 190 bulls sold, 159 were purchased by Virginia buyers and 31 (16%) sold out of state to cattlemen in North Carolina, Tennessee, West Virginia, Maryland, and Oklahoma.

**2013-2014 VA. BCIA CENTRAL BULL TEST STATION
SALE AND BREED AVERAGES**

	Culpeper Sr.		SW Virginia		TOTAL	
Angus	48	\$2,642	85	\$3,551	133	\$3,223
Charolais		-----	4	\$4,413	4	\$4,413
Gelbvieh		-----	2	15,000	2	15,000
Gelbvieh Bal.		-----	5	\$4,190	5	\$4,190
Hereford		-----	8	\$3,763	8	\$3,763
Simmental		-----	15	\$3,387	15	\$3,387
Simm. Hybrid	4	\$2,850	19	\$4,297	23	\$4,030
2013-14 Totals	52	\$2,658	138	\$3,859	190	\$3,531

Average total test and sale costs for bulls fed and sold during the year was \$1112 (all-inclusive from delivery through sale), for an average return of \$2418 per head to the consignor after all expenses. Partitioning total costs, test costs averaged \$630 (126-day feeding period) and post-test/sale costs averaged \$482 per head (sale expenses averaged 8.0% of sale price).

A total of 44 breeders participated in the Central Bull Test Station program in 2013-14. There were 35 Virginia breeders, and a total of 9 from the surrounding states of Maryland, North Carolina, Tennessee and West Virginia.

All bulls tested and sold were consigned by breeders who are members of the Virginia Beef Cattle Improvement Association. Virginia BCIA was the first state beef cattle improvement association organized in 1955. For a more detailed summary of this information, or consignment details for the upcoming Virginia BCIA Central Bull Test Station program contact the Virginia BCIA office at (540) 231-2257 or visit <http://www.bcia.apsc.vt.edu>.

Details Announced for 2014-15 Virginia BCIA Central Bull Test Station Program

Joi D. Saville
Extension Associate, Beef, Virginia Tech

The Virginia Beef Cattle Improvement Association will begin its 57th year of sponsoring the Virginia's Central Bull Test Station Program. Rules and regulations for the upcoming test and sale season are now available through Virginia BCIA. A total of three test groups of bulls will be developed and sold from the two stations located at Culpeper and in Southwest Virginia.

The Culpeper Senior test is conducted at Glenmary Farm in Rapidan, VA, owned and operated by Tom and Kim Nixon. The Southwest Bull Test Station is located at Hillwinds Farm owned by Tim Sutphin of Dublin, Virginia. At the Culpeper station, a set of fall-born Senior bulls will be developed. The Southwest Test Station will develop both a set of fall-born Senior bulls, as well as spring-born Junior bulls. In addition to the traditional tests, the opportunity exists for breeders to custom feed bulls through the BCIA program so that contemporary groups may be maintained. Additionally, provisions to the program allow breeders flexibility in developing both sale-eligible and custom tests bulls. The following table provides details of age requirements, entry deadlines, and the test and sale schedule for each group of bulls.

CULPEPER SENIOR BULLS	
Birth Dates	August 15 – November 30, 2013
Entry Deadline	June 6, 2014
Delivery of Bulls	July 1, 2014
Start Test	July 15, 2014
Finish Test	November 4, 2014 (112 days)
Sale	Saturday, December 13, 2014

	SOUTHWEST SENIOR BULLS	SOUTHWEST JUNIOR BULLS
Birth Dates	September 1 – December 31, 2013	January 1 - March 31, 2014
Entry Deadline	September 5, 2014	September 5, 2014
Delivery of Bulls	October 7, 2014	October 7, 2014
Start Test	October 28, 2014	October 28, 2014
Finish Test	February 17, 2015 (112 days)	February 17, 2015 (112 days)
Sale	Saturday, March 28, 2015	Saturday, March 28, 2015

Again this year, we will feature the enhanced bull guarantee which covers fertility, structural soundness problems (including foot soundness), and other issues on all bulls sold through the program. To compliment this good-faith guarantee, fall-born senior bulls will be subject to a semen evaluation as part of breeding soundness exam required for sale eligibility. Volume discounts will be available to bull buyers purchasing three or more bulls at a BCIA bull sale.

Registered bulls of any recognized beef breed, or recorded percentage bulls of breeds which have an open herd book are eligible for the central tests. All bulls must be recorded in their respective breed association, and have a complete performance record (including EPDs). Bulls must also meet breed-specific minimum YW EPD requirements, individual performance specifications, as well as pre-delivery health and management protocol to be eligible for the tests.

Breeders in Virginia and bordering states who are members of Virginia BCIA are eligible to consign bulls. For details and copies of the rules and regulations as well as entry information regarding the central bull tests, contact the Virginia BCIA office at 540-231-9159 or visit <http://www.bcia.apsc.vt.edu>.

Phosphorus Supplementation of Beef Cattle

Mark A. McCann, Scott J. Neil and Deidre D. Harmon
Animal and Poultry Sciences, Virginia Tech

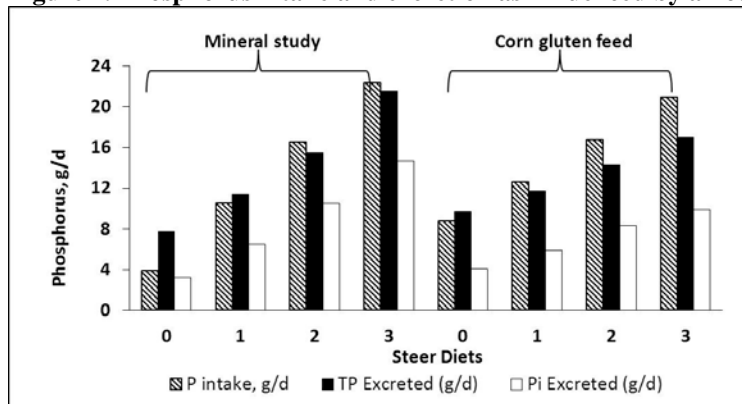
Over the past two years, field samples from beef cattle farms in Virginia's Chesapeake Bay watershed have been collected to gauge phosphorus (P) status of cattle in a project sponsored by a CIG grant from NRCS and the Virginia Ag Council. Samples collected from participating farms included soil, forage and fecal samples, a questionnaire regarding fertilization and supplementation practices and a tag from their free-choice mineral. Forage samples were analyzed for nutrient and mineral analysis. One hundred twenty locations from 11 counties participated with sample collection (N = 168). Sixty-seven producers completed the survey instrument in addition to the full complement of forage and fecal samples.

During the same period of time two feeding trials were conducted on campus where steers received different levels of phosphorus supplementation from mineral or corn gluten feed. Levels of supplementation ranged from below to well above animal phosphorus requirements (Diets 0-3). The steers were fed a base ration of chopped grass hay which was low in phosphorus and fitted with fecal collection bags which allowed for total fecal collection. This allowed an accounting of P consumed versus P excreted in feces. Beyond measuring total P excreted, laboratory analysis also determined the inorganic and organic P content of each fecal sample. Inorganic P is also referred to as water soluble phosphorus and is the P fraction which is most likely to contribute to P runoff leaving a watershed during a rain.

Results

Campus feeding studies- The feeding studies indicated that as greater amounts of P were fed, greater amounts of P were excreted via the feces. This relationship held true regardless of the source of P (mineral vs corn gluten). Additionally, as greater amounts of P were fed and excreted, the fraction of inorganic P excreted in the feces also increased (figure 1). This would suggest that as the amount of P supplemented exceeds cattle P requirements, the amount of inorganic or water soluble P excreted also increases. The net result of feeding P above cattle nutrient needs is that a greater amount of P is excreted and a larger portion of the excreted P is in a form more vulnerable to runoff.

Figure 1. Phosphorus intake and excretion as influenced by amount of supplemental P



Field Study- Figure 2 displays the percentage of soil samples in each of the Virginia Cooperative Extension soil P classification levels. The smaller percentages of samples fell in the low and very high categories, while over 70% of the collected samples were in the medium and high classification. The distribution of Forage P content is displayed in Figure 3. The overall average Forage P % was 0.34 % of DM. Table 1 at the end of the article contains the P requirements of cows and growing stockers. It should be noted that the average Forage P of the field samples exceeded the P requirement of all stages of production. While there were farms which needed P supplementation, they were the exception rather than the rule. Figure 4 depicts Soil P and Forage P from each farm. There is a general trend for increased Forage P levels as Soil P increases, but the relationship is not as strong as one might expect. Soil pH, forage maturity and rainfall also influence Forage P. So in general Soil P was only a fair indicator of the Forage P level.

Figure 2. Soil P categories (135 samples)

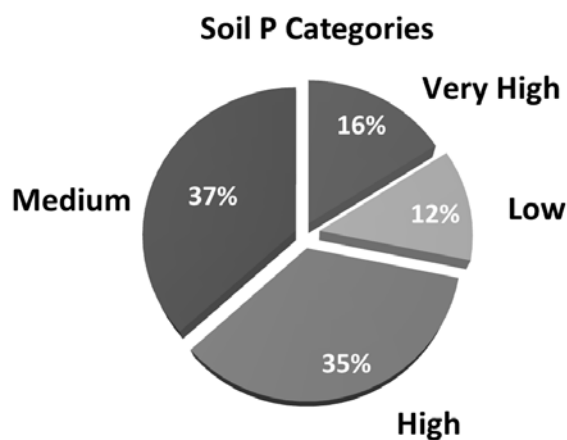


Figure 3. Forage P levels (168 samples)

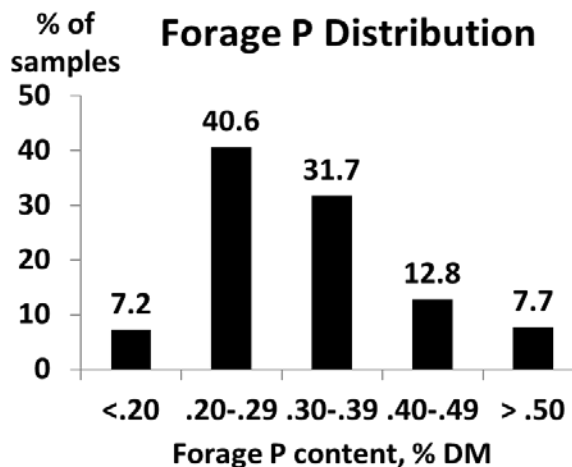
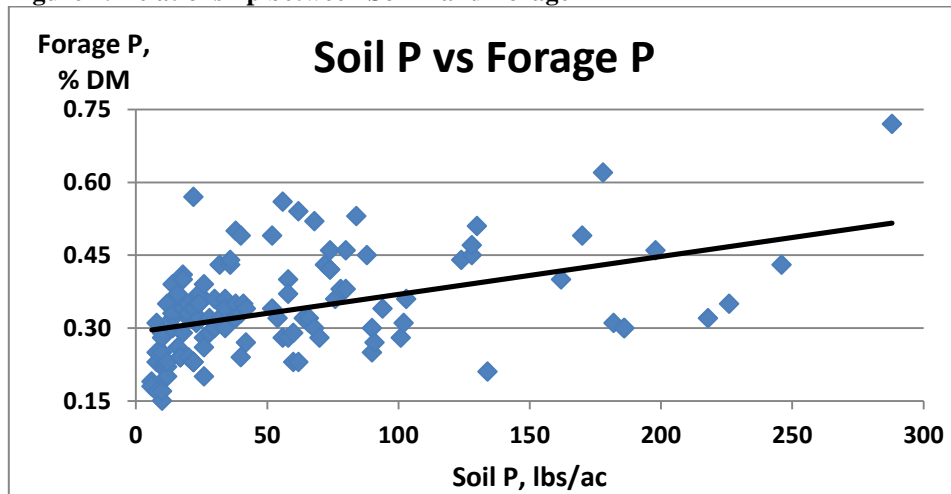


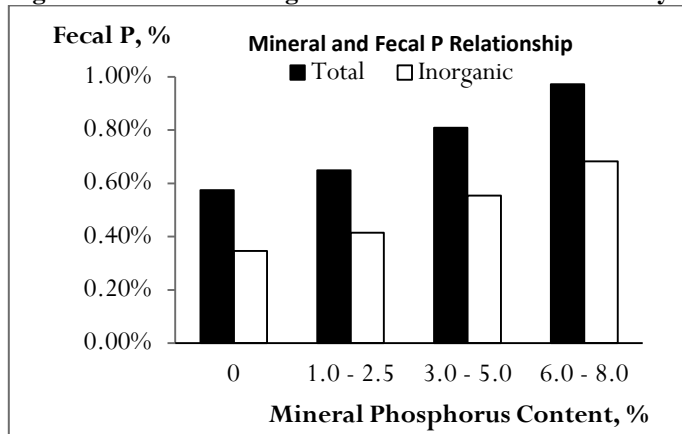
Figure 4. Relationship between Soil P and Forage P



Cattlemen who participated in the study also submitted feed tags of the free-choice mineral they were feeding. Farm mineral supplements were categorized into four levels of P content (0, 1.0-2.5, 3.0-5.0, and > 6.0 %). Mineral P content was unrelated to forage or hay

P content on the farm. In fact, the average forage P content from the farms for the 0, 1-2.5, 3-5 and 6-8 % mineral categories was 0.27, 0.37, 0.37 and 0.46 %, respectively. This would suggest that farms offering minerals with higher P levels had a pasture or hay forage which was already high in P and required no supplementation. Fecal samples collected were analyzed for total and inorganic P. Results are plotted against the mineral P level in Figure 5. As the P content of the free-choice mineral increased, the total phosphorus concentration of the feces also increased. Also, as the fecal Total P increased, a greater percentage of the P was in the inorganic form. This is characteristic of P excretion on diets which exceed the animal's requirement. The inorganic form of P is water soluble and provides a greater runoff risk.

Figure 5. Total and Inorganic P excretion as influenced by mineral P content



Sixty-seven producers completed the survey in addition to submitting soil and forage samples. Nutrient management plans (NMP) are a tool used to minimize whole farm environmental impact and enhance nutrient conservation on the farm by limiting soil erosion and runoff. Fifty-five percent of participants had implemented NMP at the time of survey completion. In relation, twenty-five percent of all producers sampled forage to determine nutrient content. The majority of producers that sampled forage (94 %) currently utilized nutrient management plans. Participants ranked criteria for mineral supplement selection. Responses were weighted based upon participant designated ordinal ranking of criteria (3 for primary, 2 for secondary and 1 for tertiary criteria). Interpretation of response distribution suggests that the primary criterion for mineral supplement selection was price (20.6 %), followed by local availability (17.8 %) and trace mineral content (17.5 %). Sixty-nine percent of producers supplemented a commercial complete mineral mix and 22% used a trace mineral salt block. Eighty-two percent of participants indicated willingness to reduce mineral phosphorus supplementation levels if forage analyses revealed that feed and forage resources were capable of meeting phosphorus requirements, while 15 % indicated uncertainty, and 3 % indicated unwillingness.

Results from the field trial indicate on the majority of farms forage P was adequate for stockers and lactating cows. Removing P from the mineral supplement would reduce P excretion and also save money. Sampling fresh forage or hay is a way to estimate P available. A fecal analysis takes into account the amount of added P from mineral or feed sources of the herds. The majority of the cattlemen participating in the study were

receptive to modifying their P supplementation based on forage test results while only 6% were opposed to any modification.

Table 1. Phosphorus requirement of beef cows and growing stockers

Beef cow	% P	Stockers	% P
Late gestation	0.16	1.0 lb/d	.19-.21
Early lactation	.20-.25	2.0 lb/d	.21-.26
Late lactation	.15-.17	3.0 lb/d	.26-.37
Dry	0.13		

Grazing Recycles Nutrients

Peter Callan, Extension Agent, Culpeper County, Agriculture & Natural Resources,
Farm Business Management, Culpeper, Virginia

Over the past 10 years increasing numbers of cattle producers have started to intensively graze pastures to maximize pasture as a source of feed. Rotational grazing is a management intensive system that concentrates animals within a relatively small area (paddock) for a short period of time e.g. 1-3 days for beef cattle. A pasture may be divided into multiple paddocks. The animals are then moved to another paddock while the other paddocks are allowed to recover and regrow. Animals are moved according to a flexible schedule based on herd size, the amount of land available, quality of forages in the paddock and forage consumption.(1) Continuous grazing is use of one pasture. The type of grazing system implemented on a farm has major implications regarding pasture fertility.

Missouri researchers estimated that grazing animals recycle 75-85% of forage nutrients consumed. An even distribution of manure throughout a paddock is required for productive plant and animal growth. Intensity of grazing rotations affects the manure coverage in paddocks. In a rotational grazing system there is an even distribution of manure because the animals are forced to consume forage in the paddock before being moved to another paddock. The Missouri researchers calculated that under continuous grazing practices, 27 years would be needed to obtain one manure pile per every square yard within a pasture. Conversely, the pasture was divided into paddocks and a two day rotation was used. Then two years would be needed to achieve an even distribution of manure within the paddock.(2)

The location of hay feeding areas will impact the distribution of nutrients within a field. Manure will be deposited near the feeding areas. Depending on weather conditions and the potential for creating mud and ruts in the pasture, feeding areas may be moved throughout the pasture to insure a more even distribution of nutrients. Whenever hay is baled, nutrients are removed from the field and exported to the feeding area. Kentucky researchers have estimated that a ton of grass hay (fescue, orchard grass) removes the following nutrients from the soil: 12 lbs. of phosphate and 50 lbs. of potash.(3) If these nutrients are not replaced; soil reserves will be depleted over time. Consequently, there will be a reduction in crop yields. Soil testing determines the amount of fertilizer that needs to be applied to maintain hay yields.

Cooperative extension agents can assist producers in the design of rotational grazing systems for their farms. Virginia Tech livestock budgets have shown that the implementation of rotational system can maximize profitability for cow/calf producers. There are Virginia livestock producers who have increased net profits by \$200 per head due to the implementation of rotational grazing systems on their farms. Rotational grazing systems can maximize farm profitability by recycling nutrients which results in a major reduction of purchased fertilizer inputs.

1. Bellows, B. 2001. Nutrient Cycling in Pastures. National Sustainable Agriculture Information Service.
2. Lory, J. and C. Roberts. 2000. Managing nutrients in pastures to improve profitability and water quality. In: G.J. Bishop-Hurley, S.A. Hamilton, and R. Kallenbach (eds.) Missouri Dairy Grazing Manual. Missouri University Extension. University of Missouri. Columbia, MO.
3. Smith, R. 2008. Soil Test Should Drive Fertilizer Decisions. Hay and Forage Grower.

Tri-State Beef Conference To Be Held August 12th in Abingdon, VA

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

The Seventh Annual Tri-State Beef Cattle conference will be held at the Washington County Fairgrounds in Abingdon, Virginia on August 12th. This year's conference will address topics of interest to both stocker and cow-calf producers. The conference will be a one-day event and will include educational sessions covering such topics as beef cattle outlook, pre-weaning calf management and its effects on post-weaning performance, respiratory diseases and pinkeye, commodity feed and mineral supplementation. There will once again be virtual tours of operations from each of the three states and then a time of questions and answers with the producers themselves.

A trade show will be open during the conference, with many of the animal health, feed, and marketing organizations involved in the region's beef industry there for participants to meet and learn more about their products and services.

The conference will begin with registration at 8:00 a.m. and the program beginning at 9:20 a.m. The trade show will open at 8:00 a.m.

The meeting is being sponsored by Virginia Cooperative Extension, University of Tennessee Extension, and North Carolina Cooperative Extension. Registration information and complete details will be available through your county Extension Office. Registration for the conference is \$20 before August 5 and \$25 after August 5. Additional information can be obtained from Dr. Scott Greiner, Extension Beef Specialist, Virginia Tech, phone 540-231-9159, email sgreiner@vt.edu, or on the web at <http://www.apsc.vt.edu/extension/beef/index.html> or through your local Extension office.

Tri-State Beef Conference

August 12, 2014
Washington County Fairgrounds
Abingdon, VA

A conference for both cow-calf producers
and stocker operators



Co-sponsored by
BEEF[®]

Registration Form

Payment Information:
Enclose a check payable to:
Abingdon Feeder Cattle Association

Registration Fee
\$20 — Before August 5
\$25 — After August 5

Mail to:
Tri-State Beef Conference
c/o Phil Blevins
Abingdon Feeder Cattle Association
234 W. Valley Street, Suite B
Abingdon, VA 24210

Name: _____
Address: _____
City _____ State _____ Zip _____
County: _____
Phone: (_____) _____
E-mail: _____

E12-4115-00-008-14
Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development. University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating. UT Extension provides equal opportunities in programs and employment.

This year's conference will address topics of interest to both stocker and cow-calf producers. The conference will be a **one-day event** and will include educational sessions covering such topics as beef cattle outlook, pre-weaning calf management and its effects on post-weaning performance, respiratory diseases and pinkeye, commodity feed and mineral supplementation. We will once again have virtual tours of operations from each of the three states and then will have a time of questions and answers with the producers themselves. This year's conference will be one that should add dollars to your bottom line whether you run a stocker or a cow-calf operation.



Directions to Fairgrounds



Take Exit 14 off I-81 to US 11
 Turn left on US 11 at light
 Go approximately 1/4 mile
 Fairground Road is to the right

Tuesday, August 12

Registration begins at 8:00 a.m. The program will begin at 9:20 a.m.
 A steak lunch will be provided for all participants.

Topics and Speakers

Beef Cattle Outlook

Dr. Kenny Burdine
 Assistant Professor
 & Livestock Marketing Economist
 University of Kentucky

Pre-weaning Calf Management and Its Effects on Post-weaning Performance

Dr. Philippe Moriel
 Assistant Professor
 & Livestock Specialist
 North Carolina State University

Virtual Tours of three beef operations

We will highlight an operation from each of the three states and will have a time of questions and answers with the producers themselves

Respiratory Diseases and Pinkeye

Dr. Marc Caldwell, DVM, DACVIM
 Assistant Professor
 Farm Animal Field Service
 University of Tennessee
 College of Veterinary Medicine

Commodity Feed and Mineral Supplementation

Dr. Mark McCann
 Professor, Ruminant Nutrition
 Virginia Tech

Overview of the Feedlot Industry Today

Mr. Brad Stout
 Manager—Feedyard Operations &
 Cattle Procurement
 Friona Industries, L.P.

A trade show will be open during the conference, with many of the animal health, feed, and marketing organizations involved in the region's beef industry there for you to meet and learn more about their products and services.

Conference Hotel

Comfort Suites
 1093 Ole Berry Drive off I-81 exit 14
 Abingdon, VA 24210
 (276) 698-3040

Rate: \$99 single or double/night
 Deadline for group rate: July 21
 Group name: Tri-State Beef Conference

The conference is presented by the University of Tennessee Extension, Virginia Cooperative Extension and North Carolina Cooperative Extension.

UT Extension

NC State University
**COOPERATIVE
 EXTENSION**
 Empowering People - Providing Solutions

Virginia
 Cooperative
 Extension

Sheep Update

Dr. Scott P. Greiner

Extension Animal Scientist, Virginia Tech

2014 Virginia-North Carolina Wool Pool

Producers in Virginia and North Carolina interested in marketing their wool through local wool pools will have the opportunity to do so through Mid-States Wool Growers Cooperative Association based in Canal Winchester, Ohio. Producers are encouraged to package, handle and store their wool in an appropriate manner in order to maximize the value of their wool clip. Wool should be packaged by type and grade (ewe vs. lamb wool, long staple vs. short wools, fine vs. medium wools) in plastic bags, and be clean, dry, and have foreign material (straw, mud, manure) removed prior to packaging. Following is a list of local pool delivery dates and locations where wool will be picked up:

Date & Time	Location
July 8 - 8:00 to noon	Clarke Co. Fairgrounds, Berryville, VA
July 10 - 8:00 to noon	Southern States, Christiansburg, VA
July 11- 8:00 to noon	Farmers Milling, Wytheville, VA
July 14 - 1:00 to 4:00 PM	Southern States, Lebanon, VA
July 15 - 8:00 to 11:00 AM	Southern States, Tazewell, VA
July 17 - 1:00 to 3:00 PM	1428 Rocky Branch Rd., South Hill, VA
July 18 - 9:00 to 11:00 AM	Deep Root Home Garden, Orange, VA
July 18 - 7:00 AM to 1:00 PM	Government Building, Verona, VA
July 23 - 8:00 to 11:00 AM 2:00 to 4:00 PM	Farmers Market, Williamston, NC Fairgrounds, Albemarle, NC
July 24 - 8:00 to 10:00 AM 8:00 to 10:00 AM	WNC Regional Livestock Center, Asheville, NC Alleghany Fairgrounds, Sparta, NC

To confirm the above dates, and for more information regarding specific times and locations, contact your local Virginia Cooperative Extension Office.

Proper Wool Handling

Proper harvesting, packaging, and storage of the wool is important to realize the full value of the wool clip. Since wool sales represent a very small portion of the gross returns for most sheep enterprise, wholesale changes to the genetics of the flock to improve fiber diameter and fleece weight are likely not justified for most Mid-Atlantic producers. However, there are several important steps that should be considered to maximize the value of the wool clip:

A. Minimize Contamination:

1. Keep shearing area clean and free of straw/hay and other potential sources of contamination.
2. Avoid use of plastic baler twine in sheep operation that may contaminate fleeces (this contamination occurs throughout the year, not just at shearing time).

B. Use Proper Packaging Material

1. Do not use plastic feed sacks to store or package wool.
2. Plastic film bags are available and preferred. Points to consider with plastic film bags:
 - a. Sheep need to be dry when sheared. Plastic bags will not breathe as well as jute bags (more possibility for wool to mold and rot).
 - b. Plastic film bags will tear easier when handled.
 - c. Tie plastic film bags shut in similar manner to jute bags.
3. Store wool in dry place, avoid cement or dirt floors to prevent moisture uptake.

C. Sort Wool at Shearing Time

1. Shear white-face sheep first, blackface sheep last to avoid contamination of white-faced wool with black fibers.
2. Package lamb and ewe wool separate.
3. Remove tags at shearing and discard.
4. Sort belly wool and bag separately. Also sort wool caps and leg wool out if justified.
5. Off-type fleeces (black, high vegetable matter, etc.) as well as belly wool should be packaged first in a small plastic garbage bag or paper sack. The small bag may then be added to the large polyethylene film bag. The small bag serves to keep these wools separate and prevents them from contaminating other fleeces already packaged, and results in a more uniform lot of wool.
6. Do not tie wool with paper twine.

Sheep Field Day, Performance Tested Ram Lamb Sale and Replacement Ewe Lamb Sale is August 23 at Shenandoah Valley AREC

A full day of sheep activities are planned for Saturday, August 23 at the Virginia Sheep Evaluation Station near Steeles Tavern, Virginia. At 10:30 a.m., a Sheep Field Day with educational programs will be held. The 39th Annual Performance Tested Ram Lamb Sale will begin at 1:00 p.m. The top end of the eighty Suffolk, Dorset, Hampshire, Katahdin, and White Dorper rams being evaluated on the 63-day test will be sold. All rams sold will be evaluated for structural and reproductive soundness and will be sold as guaranteed breeders. Complete performance information will be available, including ultrasound measurements for carcass traits. Following the ram sale, the Virginia Sheep Producers Replacement Ewe Lamb Sale will be held. A select group of ewe lambs ready to breed will be offered. The Virginia Sheep Evaluation Station is on the Virginia Tech Shenandoah Valley Agriculture Research and Extension Center, located at 2763 Raphine Road, Raphine, VA (0.5 mile east of I-81 at Exit 205 just south of Staunton, VA). For sale information and a catalog, contact Scott Greiner, Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA, 24061, phone (540) 231-9159 or email sgreiner@vt.edu. Current information is also available on the Virginia Tech Sheep Extension and Education website at <http://www.vtsheep.apsc.vt.edu/>.

Virginia Tech Sheep Center to Host 15th Annual Production Sale August 30

The 15th Annual Virginia Tech Sheep Center Production Sale will be held Saturday, August 30 at the Alphin-Stuart Livestock Arena on the campus of Virginia Tech. The sale offering will include Suffolk and Dorset ram lambs, along with Suffolk and Dorset ewe lambs. Complete performance data including EPDs and carcass ultrasound records are available. Proceeds from the sale will be used to support the sheep teaching, extension, and research missions of the Department of Animal & Poultry Sciences. Sale details and catalog are available on the web at http://www.apsc.vt.edu/centers/sheepcenter/index_sheep.htm For additional information contact Dr. Scott Greiner, phone 540-231-9159 or email sgreiner@vt.edu .

Porcine Epidemic Diarrhea Virus (PEDv) and Small-Scale and Niche Market Pork Production in Virginia

Dr. Mark Estienne, Jeffrey Wiegert, and Sherrie Clark, Virginia Tech

INTRODUCTION

Porcine Epidemic Diarrhea was first described in Great Britain in 1971 and in Belgium later in the decade. Since then, other European countries have had occasional outbreaks with the most recent being in Italy in 2005. The disease has also been reported in several Asian countries including Japan and South Korea, and is endemic in China, Vietnam, the Philippines, and Thailand. A disease is considered “endemic” when it is maintained in a population without the need for further input of external pathogen.

The first cases of PEDv in the U.S. were confirmed in May of 2013, and disease spread rapidly among the hog-dense, Mid-Western states. As of this writing, PEDv has killed at least 7 million young pigs in at least 30 states nationwide. On the East coast, North Carolina, South Carolina, Maryland, Pennsylvania, and New York have all had positive cases and the first documented case in Virginia was reported in mid-April of this year. Porcine Epidemic Diarrhea is not considered a foreign animal disease in the U.S. and is also not on the list of reportable diseases maintained by the World Organization for Animal Health (**OIE**). However, on April 18, 2014, the United States Department of Agriculture (**USDA**) announced new measures to combat the spread of disease in the domestic pig population, including: 1) required reporting of PEDv, and 2) required tracking of movements of pigs and vehicles leaving affected premises; movement of pigs from affected sites will still be allowed. This bulletin provides brief answers to frequently asked questions about PEDv and suggestions for minimizing the effects of the disease on small-scale and niche market pork production in Virginia.

WHAT IS PEDv AND WHERE DID IT COME FROM?

Porcine epidemic diarrhea virus is a member of the *Coronavirus* family of viruses. Other members of this family include Porcine Respiratory Coronavirus (**PRCv**), Hemagglutinating Encephalomyelitis Coronavirus (**PHE**), and most notably, Transmissible Gastroenteritis Virus (**TGEv**). Clinical symptoms of PEDv and TGEv are very similar, including high death rates in young pigs. In fact, for many weeks prior to the confirmation of PEDv in the U.S., veterinarians were describing “TGE-like” outbreaks despite negative laboratory reports.

How PEDv came to the U.S. remains unresolved. However, researchers including Dr. X.J. Meng from the Virginia-Maryland Regional College of Veterinary Medicine in Blacksburg have determined that the U.S. strain most likely came from the Anhui Province of China. Although feed has never been linked to PEDv outbreaks in Europe or Asia, ongoing research is focused on testing various feed ingredients, such as blood plasma, and their sources for PEDv.

WHAT ARE THE CLINICAL SIGNS OF PEDv?

As mentioned above, the clinical signs of PEDv are very similar to TGEv. These include severe acute watery diarrhea, vomiting, and anorexia. Suckling pig mortality can be as great as 100% during the initial weeks of an outbreak. In nursery and growing pigs, mortality can reach 5%, with most animals showing signs of diarrhea, anorexia, and depression. Affected swine shed virus for approximately 9 days.

HOW IS PEDv SPREAD?

The incubation period for PEDv is relatively short and is estimated at 2 to 4 days. Incubation period is the time elapsed between exposure to a pathogenic organism and when symptoms and clinical signs are first apparent.

Transmission of virus occurs primarily via: 1) the fecal-oral route from pig to pig, and 2) by fomites (any object or substance capable of carrying infectious organisms). Farmers can carry the virus on their boots, clothing, gloves or hands. Equipment such as dirty trucks, trailers, or loading chutes, can also be a source of contamination. Swine vehicles returning from packing plants, auction barns, buying stations, or livestock exhibitions pose a great risk of infection. There is no scientific evidence that PEDv is shed in semen, but there is a risk of transmission via bottles, boxes, etc. from a positive farm. Finally, various avian species and bats have been implicated in the spread of PEDv.

HOW IS PEDv TREATED?

Being a viral disease, antibiotics are useless for treating PEDv. Treatment must be directed at the clinical signs associated with the virus and not the virus itself. As mentioned above, PEDv causes watery diarrhea and death occurs due to severe dehydration. In theory, the water, nutrients, and electrolytes that are lost through diarrhea could be replaced in affected animals by intravenous or subcutaneous injection. This approach, however, would be expensive and quite time-consuming and likely not practical on the farm with large groups of pigs. Additionally, affected pigs have a reduced ability to absorb water and nutrients due to the destruction of the absorptive villi in the intestines.

The younger the pig, the more likely PEDv will be fatal. Placing older suckling and nursery pigs in a warm (~90° F), draft-free area with constant access to fresh water may perhaps reduce losses in those individuals. The provision of water and supplemental heat will help offset dehydration and decrease the demand for energy to keeping warm. These animals have a greater probability of recovering as they have a larger amount of fat stores and time for the villi of the intestines to regrow, a process that can take up to 7 to 10 days.

ARE THERE VACCINES AGAINST PEDv AVAILABLE?

Although work in the area is intense, vaccines against the U.S. strain of PEDv have not yet been developed. Although PEDv and TGEv viruses are related and the clinical signs are very similar, there is no immune cross-protection. Natural immunity to PEDv develops in sows in 2 to 3 weeks after an outbreak.

In the event of a PEDv outbreak, currently the best means of protection comes from aggressive bio-feedback of fecal material and intestinal tracts from acutely infected piglets. The primary goal is to ensure that every animal on the farm is infected as soon as possible so that natural immunity is established. As is always the case, any type of bio-feedback protocol should be developed and implemented in consultation with the herd veterinarian.

CAN PEOPLE CATCH PEDv?

Zoonosis describes the process whereby an infectious disease is transmitted between species from animals to humans or from humans to other animals. PEDv is not zoonotic and cannot be spread between swine and humans or to other species of livestock.





DOES PORK REMAIN SAFE TO EAT?





To reiterate, PEDv does not affect people. Also, PEDv is not a food safety concern and pork remains safe to eat. For small-scale and niche market pork producers this is extremely important information to share with customers and various clientele.

WHAT IS THE BEST WAY TO PREVENT MY HERD FROM CONTRACTING PEDv?

For swine farmers, Biosecurity, always important, is now more so than ever. Preventing the spread of PEDv should be the main focus of everyone. Direct spread of a new disease into a herd by new animal introduction is always a risk. Moreover, indirect transfer of pathogens at places where pigs, people working with pigs, or trailers or vehicles associated with pigs are comingled is a major concern. This of course includes packing plants, livestock markets, buying stations, youth livestock exhibitions and shows, etc.

Good biosecurity procedures include the following:

-  Biosecurity information signs are posted and maintained at multiple sites at the farm.
-  Only pigs, people, and equipment that are absolutely necessary are allowed onto the premises.
-  Visitors, including service personnel are only allowed on-site if absolutely necessary. Strict “downtimes” are enforced for anyone entering the farm. At Virginia Tech, following contact with other swine farms or pigs, a seven-day down time must be observed before entering to university swine facilities.
-  In order to access the farm, showering is mandatory and fresh or disposable boots and coveralls are provided.

-  All equipment and supplies entering the farm should be thoroughly cleaned, disinfected, and allowed to dry. Disinfectants that have been demonstrated to effectively inactivate PEDv include Virkon S, bleach, soda ash, ethyl alcohol, iodine, 1 Stroke Environ, Tek-Trol, and Synergize. A mandatory down time, as described above is enforced.
-  Rodent and insect control programs are maintained. Access to facilities housing swine by birds, dogs, cats and/or wildlife is minimized as much as is possible.
-  Feed spills are cleaned up immediately.
-  New swine or swine returning to the farm are isolated for 30 to 60 days before contacting resident swine. During isolation animal health is monitored by a combination of blood testing and observation for clinical signs of disease.

For up-to-date information on PEDv, visit the following sites:

National Pork Board

<http://www.pork.org/Research/2641/ResearchLatestNews.aspx#.Uhd3GZJJOKI>

American Association of Swine Veterinarians

<http://www.aasv.org/aasv%20website/Resources/Diseases/PorcineEpidemicDiarrhea.php>

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