

FOR CALLOUSED HANDS

*Virginia Cooperative Extension's
Central District Monthly Agriculture Newsletter*



Using Forages to Meet the Nutritional Demands of Your Herd

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Extension Livestock Specialist



Stored feed and forages necessary for keeping livestock through the winter are often the greatest expenses for a cow-calf or small ruminant operation. When one considers that nutrition is also the primary factor affecting animal performance, such as gains, conception rates, or milk production, losses in production due to improper nutrition could also represent substantial costs for a farm. Providing adequate nutrition to livestock in a least cost manner is arguably the most important economic objective of the ruminant producer. In this article, we will consider some simple ways that we can predict feed quality. Given that the nutritional backbone of Virginia ruminant production systems is forages, it is important to know what factors affect forage quality. Finally, identifying when a nutrient is missing and taking steps to provide that need are critical components for successful winter-feeding.

While the true quality of a feed is only determined by the performance of the animal being fed, some laboratory measures predict how an animal will perform on a feed. The two most helpful measures for beef cattle are crude protein (CP) and total digestible nutrients (TDN), which is a common measurement for the expected energy available to a ruminant from the feed. In general, it is available energy, not protein, which is lacking in most forages grown in Virginia. Although other nutrients such as minerals can be important for the health and production of livestock, in most cases a free-choice mineral blend designed for pasture situations should correct for any mineral deficiencies in the forage.

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Forage	Harvest date	Sample date	CP	TDN
1 st cut hay	May 12, 2017	January 11, 2018	13.2	58.2
Stockpiled fescue - green	January 9, 2018	January 9, 2018	12.9	76.7

Harvested and stored forages are lower in quality than forages that can be grazed directly from the plant. Through photosynthesis, a plant converts energy from the sun into chemical energy in the form of highly digestible sugars. Photosynthesis, however, is halted at night (or when leaves are not exposed to sunlight such as at the bottom of the windrow) or when forages have wilted. Respiration, on the other hand, is the utilization of these digestible sugars as energy by the plant, thereby reducing the feeding value of the forage. Respiration can continue even in the dark and continues until the plant reaches about 60% moisture. Because respiration exceeds photosynthesis as the plant wilts, the sugar content of harvested forages begins to decline not long after the plant is cut. Achieving rapid dry down is often a critical step in minimizing the losses of sugars in the hay due to respiration. One of the primary advantages of stockpiled fescue for late winter grazing instead of feeding harvested hay is that the loss of sugars through respiration does not have time to occur in the amount of time that the animal harvests and then “stores” the fresh forage in their rumen (Table 1).

As a plant matures, the concentration of digestible sugars or protein begins to decline as fiber levels increase. Proper timing of hay cutting, particularly in the spring, can have an enormous impact on the subsequent feeding value of the hay. This principle may seem to negate the previously noted benefits of fall stockpiled tall fescue. In fact, forage nutritive value does decline through the winter, not just because the plants have matured in the fall, but also because of weathering. Nevertheless, depending on weather conditions in the late winter, new tillers may begin to put out new growth, resulting in a “mature” sward with an increasing nutritive value because of the young growth. In reality then, the nutritive value of stockpiled fescue often declines through the winter, but then begins to increase again with the growth of new tillers in late winter or early spring.

Table 1: Stockpiled Tall Fescue, 2018

Stockpiled tall fescue sampled in January 2018 was significantly more nutritious than hay made from the same field in May of the previous year. The green material was separated from the brown material prior to analysis, but the green material yielded around 2400 lb/ac of forage.

Different species of forages (and even varieties) can have large differences in nutritive value. In general, cool-season forages are often higher in TDN than warm-season forages. Because legumes can biologically fix nitrogen (a primary component of protein) from the atmosphere, legumes are often higher in CP than grasses at similar stages of maturity. The fiber in the leaves of legumes is also generally digested at a faster rate than the fiber in grasses; thus legumes in the diet can promote greater intake.

While it is helpful during the growing season to understand the primary principles affecting forage nutritive value, once the hay is stored and the grass stops growing, a farmer has to use what they have (or what they can buy). The first step is to determine the needs of the livestock. This can be determined from publications such as “Nutrition and Feeding of the Cow-Calf Herd: Production Cycle Nutrition and Nutrient Requirements of Cows, Pregnant Heifers and Bulls” (search pubs.ext.vt.edu for VCE Publication #400-012). Keep in mind that the requirements of livestock will change depending on where they are at in their production cycle. For example, first-calf heifers generally have the greatest nutritional demand. This can have implications on winter-feeding strategies depending on whether the herd will calve in the spring or in the fall, with fall calving cows have the greatest nutritional demands in the early winter compared to spring calving cows.



Forages Continued on next page...

Forages Continued...

Testing the Hay

The next step is to test the hay. Collect and combine at least 20 subsamples representatively from each hay lot. Sample hay across the windrows instead of with the windrows, meaning that a probe should be inserted into the curved end of a round bale or the short end of a square bale. Sampling depth should exceed 12". Your county Extension Agent may have a hay probe for loan or they may assist with the sampling. They can also provide information on where to send the sample for analysis. For most hay samples, a near infrared (NIR) scan should be sufficient to determine the nutritive value of the hay and substantially cheaper than an analysis that uses "wet chemistry." Forages that will be grazed can also be submitted for an analysis by sampling around 30-50 points within a pasture. When collecting such a sample, attempt to mimic the selection of your livestock (i.e. do not sample unpalatable weeds or the fibrous stems of grasses) and sample as close to feeding as possible. To minimize losses due to respiration or decomposition, dry the forage down immediately or freeze and ship the sample on ice.

Results

Once the results are received, determine if the forage is sufficient or insufficient in either TDN or CP for a particularly class of livestock by multiplying the percent TDN or CP of the forage by the expected dry matter intake of the animal. If TDN (for example) were determined to be insufficient, one would need to feed an energy-supplement to meet the demands of the livestock. A simple way of determining how much supplement is required is to use a Pearson square. In this method, write the percent TDN of the forage and the feed on the top and bottom left of the square, respectively (Figure 1). Insert the requirements of the animal within the middle of the square. Subtract the TDN content of the forage or feed from the requirement of the animal and write the absolute value of the value on the bottom and top right of the square, respectively. Those numbers are the respective parts of the ration that you would feed to meet the requirements of your livestock. You can convert the percent of forage or supplement in the ration to pounds by multiplying by the expected dry matter intake of the animal. Keep in mind that this math should be completed using dry matter units and then converted to an as-fed basis by dividing by the dry matter of the feed or forage. If you need to balance both CP and TDN in a ration or you are planning to feed a more complex ration, see your county Extension Agent for more information on balancing the ration.

For more information on forages, please visit the following:



- www.ext.vt.edu (search pasture & forages)
- www.vaforages.org
- www.youtube.com (search KY Forages - formerly VA Forages)

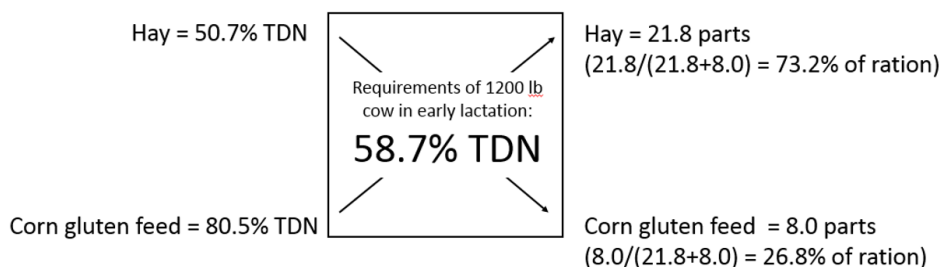


Figure 1: Pearson square for balancing a ration for TDN

Proper nutrition for livestock is a primary concern of the ruminant producer. While a general sense of factors affecting forage nutritive value will be helpful during next year's growing season, knowing how to make use of what you have is likely your current challenge. The first step is to test the forage and then provide supplements as needed to balance the ration. Preparing for the next winter feeding season will begin again in the spring by cutting hay in a timely fashion or in the late summer by stockpiling fescue for winter grazing.



Find Your Local Private Pesticide Recertification Program

It is almost pesticide recertification time! You should be receiving a letter from your extension agent listing your local recertification opportunities as well as a larger list below. For questions or to register, please contact the person listed. *You can check up on your own private applicator credits online at the VDACS website: <http://www.vdacs.virginia.gov/pdf/reports-private.pdf>

Private Pesticide Applicator Recertification Sessions Category 90 & 91

December 4 Nottoway/Lunenburg Counties:
9:00am - 12noon at the Southern Piedmont
AREC, 2375 Darvills Road, Blackstone, VA.
Contact Haley Norton at 434-645-9315.

December 4 Franklin County: 6:00pm - 9:00pm
at the Franklin Center, Rocky Mount, VA. Contact
Chris Brown at 540-483-5161.

December 11 Campbell County: 9:00am -
12noon at the Campbell Extension Office,
Rustburg, VA. Contact the Bedford Extension
Office at 540-586-7675.

December 13 Nelson County: 6:00pm - 9:00pm
at the Nelson Center, Lovingston, VA. Contact
the Bedford Extension Office at 540-586-7675.

December 13 Powhatan/Goochland Counties:
5:00pm - 8:00pm at the Goochland Agricultural
Center, 2748 Dogwood Rd, Goochland, VA.
Contact Rachel Grosse Henley at 804-598-5640
or Charley Maxwell at 804-556-5841

December 14 Nelson County: 9:00am -
12:00pm at the Nelson Center, Lovingston, VA.
Contact the Bedford Extension Office at 540-586-
7675.

December 18 Charlotte County: 6:00pm -
9:00pm at the Charlotte County Extension Office,
133 LeGrande Ave, Charlotte, VA. Contact the
Charlotte County Office at 434-542-5884.

**This is a reschedule from the 11th.*

January 3 Amelia County:
6:00pm - 9:00pm at the Amelia County
Government Building Conference Room, 16360
Dunn Street, Amelia, VA. Contact Laura Siegle at
804-561-2481

January 10 Buckingham/Cumberland/Prince
Edward Counties: 2:00pm - 5:00pm at the Prince
Edward Extension Office, 100 Dominion Drive,
Farmville, VA. Contact Katy Overby at 434-392-
4246, Jennifer Ligon at 434-969-4261, or Amber
Anderson at 804-492-4390.

January 15 Greensville County/Emporia: 2:00pm
- 5:00pm at the Greensville/Emporia Extension
Office, 105 Oak Street, Emporia, VA. Contact the
office at 434-348-4223.

January 24 Appomattox: 2:00pm - 5:00pm at the
Appomattox County Community Center. Contact
the Bedford Extension Office at 540-586-7675.

January 29 Brunswick County: 6:00pm - 9:00pm
at the Brunswick County Government Annex
Auditorium. Contact Cynthia Gregg or Virgie Dow
at 434-848-2151.

January 31 Mecklenburg County: 6:00pm -
9:00pm at the Sandy Fork Hunt Club, Clarksville,
VA. Contact Taylor Clarke or Vickie Gordon at 434-
738-6191 ext. 4371.

February 11 Halifax County: 6:00pm - 9:00pm at
the Halifax Volunteer Fire Department, Halifax, VA.
Contact Rebekah Slabach at 434-476-2147.



Upcoming Master Gardener Courses:

Hill City Master Gardeners Lynchburg, VA

Winter's chill has arrived and it's time to plan your spring garden! Want to learn more? Our next Master Gardener Training Class is registering now. Applications due by Jan 31st.

Application, information, and the Training Schedule are available on our Become a Master Gardener page. Link is <http://www.hcmga.com/become-a-master-gardener/>

Prince Edward Class- stay tuned!

Horticulture Updates

'Tis the Season for Boxwoods

As we prepare for the holidays, many people will make wreaths from their boxwood bushes.

This annual event is a great time to look your bushes over for any potential health issues. Bushes should have a rounded shape with room for air and light to penetrate into the canopy. They should not be buzzed off evenly, leaving only green leaves in the first few inches of the canopy. If your bushes do not have any green leaves deeper in the canopy, they may need to be thinned. Thinning out boxwoods is an ideal practice to encourage to reduce pests of all kinds in your bushes. Making your holiday wreaths from them is a great way to make sure they get that annual thinning! While you are digging through them, pay close attention to areas of leaf damage, discoloration, or severe leaf drop. For more information on boxwoods, visit: tinyurl.com/boxwoodresources or check out these videos on boxwood blight: tinyurl.com/vaboxblightvideos



DECEMBER 2018

10-11

9:30 AM -
2:00 PM

Hands-on Workshop for Dairy Farmers: Amelia
Amelia Extension Office
16360 Dunn St. - Suite 202, Amelia, VA
For details: tinyurl.com/dairyworkshop2018

11

9:00 AM -
11:00 AM

Producer Ag Breakfast Series: Soil Health
Ag Marketing Center
1001 Landfill Lane, Scottsburg, VA
For details: tinyurl.com/agbreakfast2018

12

9:00 AM -
4:00 PM

Setting Up A Sheep & Goat Enterprise
B.A.R.N.
11851 W. James Anderson Hwy, Buckingham, VA
For details: tinyurl.com/sheepgoat2018

12

9:00 AM -
3:00 PM

VA Market Ready: Farm to Restaurant Training
Southside VA Community College
200 Daniel Road, Keysville, VA
For details: tinyurl.com/farmtoforest2018

13

9:00 AM -
3:00 PM

Seeds of the Season: Festive Program on Seeds
Amelia County Administrator's Conference Room
16360 Dunn Street, Amelia, VA
For details: tinyurl.com/seedsoftheseason

13-
14

9:30 AM -
2:00 PM

Hands-on Workshop for Dairy Farmers: Franklin
Train Depot (Community & Hospitality Center)
52 Franklin Street, Rocky Mount, VA
For details: tinyurl.com/dairyworkshop2018

JANUARY 2019

8

9:00 AM -
11:00 AM

Producer Ag Breakfast: Ag Policy & Resources
Ag Marketing Center
1001 Landfill Lane, Scottsburg, VA
For details: tinyurl.com/agbreakfast2018

9*

9:00 AM -
10:30 AM

Landowner Breakfast Series: Risk Mgt & Liability
Crewe Volunteer Fire Department
1105 West Virginia Avenue, Crewe, VA
For details: tinyurl.com/pswcdbreakfast2018

**Note: This is a change from January 8th.*

11

8:30 AM -
1:30 PM

Registered Tech. Applicator Review & Exam
Campbell County Extension Office
163 Kabler Lane, Rustburg, VA
For details: tinyurl.com/rustburgrt2019

11-
13

Virginia Biological Farming Conference
Omni Richmond Hotel
100 S. 12th Street, Richmond, VA
For details: <https://vabf.org/>

16

8:00 AM -
4:00 PM

Winter Forage Conferences
Virginia Forage & Grassland Council
4 Dates & Locations - Blackstone, VA on the 16th
For details: www.vaforges.org

18

9:00 AM -
4:00 PM

Commercial & RT Applicator Recertification
Southern Piedmont AREC, Blackstone, VA
For more information, contact Nottoway
Extension Office (434) 645-9315.

30

1:30 PM -
4:30 PM

Estate Planning Essentials
Randolph VFD
2145 Cumberland Road, Farmville, VA
For details: tinyurl.com/estateplan2019

FEBRUARY 2019

1	8:00 AM - 4:00 PM	Commercial Pesticide Review & Test Ornamental & Turf : Categories 3A & 3B Prince Edward Extension Office, Farmville, VA For details: tinyurl.com/3A3B2019
8	9:00 AM - 1:00 PM	Commercial Pesticide Review & Test Ag Plant Pests: Category 1A Prince Edward Extension Office, Farmville, VA Contact, Richard Jones; (434) 941-5094
12*	8:00 AM - 3:00 PM	2018 Southside Grounds Maint. Conference Mt. Calvary Church 350 A.L. Philpott Highway, Axton, VA For details: tinyurl.com/southsidegrounds2018
<i>*Note: This is a change from December 11th.</i>		
12	9:00 AM - 11:00 AM	Producer Ag Breakfast: Row Crop Production Ag Marketing Center 1001 Landfill Lane, Scottsburg, VA For details: tinyurl.com/agbreakfast2018
12	9:00 AM - 10:30 AM	Landowner Breakfast: Building A Pond Crewe Volunteer Fire Department 1105 West Virginia Avenue, Crewe, VA For details: tinyurl.com/pswcdbreakfast2018
18	9:00 AM - 4:15 PM	Commercial Applicator Recertification Cats: 3A, 3B, 6, 10, 60, & Private 90 & 91 SPAREC, 2375 Darvills Road, Blackstone, VA Contact Nottoway Extension: (434) 645-9315
23	***	Woods & Wildlife Conference Locations: Roanoke & Culpeper For details: contact Jennifer Gagnon (540) 231-6391 or jgagnon@vt.edu .
27	1:30 PM - 4:30 PM	Setting Up An LLC Randolph Volunteer Fire Department 2145 Cumberland Road, Farmville, VA For details: tinyurl.com/llccumberland2019

5
MARCH
2019

Virginia Governor's Conference on
Agricultural Trade

<https://www.ag-forestry.virginia.gov/agtrade2019/>

Preparing Your Finances for the Holiday Season



Economic Growth, Regulatory Relief, and Consumer Protection Act**

By: Travis Mountain, Virginia
Tech Assistant Professor
Agricultural & Applied Economics

As of Friday (9/21/18) consumers will be able to freeze their credit files for free at each of the three main credit reporting agencies. Currently this would cost \$10 per credit reporting agency (Transunion, Equifax, Experian) for VA residents. If you were a victim of identity theft, you were already able to do this for free. If you are going to put a freeze on your credit, you want to do this for all three of the major credit reporting agencies. Only choosing one or two of the three serves little to no purpose.

15.4 million Americans were victims of identity theft in 2016 and over 140 million individuals had their data exposed in the Equifax data breach alone in 2017.

Freezing Your Credit - At A Glance

o The purpose of the credit freeze is to prevent a would be fraudulent actor from taking out a new line of credit in your name. For example, let's say your information was exposed in a

data breach, and someone has your name, address, and social security number. This person could attempt to open a new line of credit in your name, but would be unable to do so if you have a freeze on your credit file. The freeze basically prevents that financial institution from looking at your credit report, which they must do prior to extending you new credit.

o You can request a freeze online, by phone, and by mail. Each of the three credit reporting agencies have dedicated webpages and 1800 numbers where you can freeze your file. **If you are going to freeze your credit file, you want to freeze all three.**

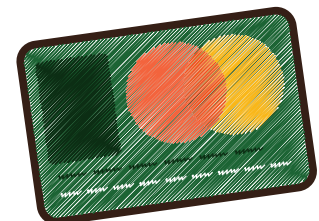
o The downside is there is a bit of an inconvenience when you decide you want to open up a new line of credit. For example, if you have a credit freeze and you want to take out a new mortgage, you will want to contact your financial institution and ask them when they will pull your credit reports and from which credit reporting agencies. For a mortgage, they will likely want to look at all three of the major credit reporting agencies, but for a credit card they may only look at one or two.

You will then want to unfreeze your credit file for any credit reporting agency your financial institution needs to look at. You can do that by calling the 1800 number, online, or via mail. You will need to provide a pin that was given to you when you froze your file, and indicate how long you want the file to be unfrozen.

o 15.4 million Americans were victims of identity theft in 2016 and over 140 million individuals had their data exposed in the Equifax data breach alone in 2017.

Certainly, look into freezing your credit if you haven't already. There is a bit of an inconvenience when you need to unfreeze your credit when you want to take out a new line of credit, but this inconvenience is minute when compared to trying to fix your credit if there is fraudulent activity on your credit file. Also, everyone should be checking their credit report, which they can do for free at annualcreditreport.com once per year from each of the three major credit reporting agencies.

**** This publication has been condensed for this newsletter. For the full article & more information on freezing your credit, please visit: tinyurl.com/creditfreezepub**



Tax Tips for Timber Landowners for the 2018 Tax Year

By: Linda Wang, USDA National Timber Tax Specialist

Check out the article here: tinyurl.com/2018wangtaxtips

DICAMBA UPDATE

EPA Registration Decision for Dicamba Use in Xtend Soybeans and XtendFlex Cotton

By: Dr. Michael Flessner

As you may have heard, the EPA announced Oct. 31, 2018 to continue dicamba registrations for over-the-top use in Xtend soybeans and cotton, through 2020, with label changes. This decision only impacts Xtendimax, Engenia, and FeXapan dicamba products. The decision does not impact dicamba products that are not labeled for over-the-top use in Xtend soybeans or XtendFlex cotton.

Summary of Label Changes from the EPA:

- Two-year registration (until December 20, 2020)
- Only certified applicators may apply dicamba over the top (those working under the supervision of a certified applicator may no longer make applications)
- Prohibit over-the-top application of dicamba on soybeans 45 days after planting and cotton 60 days after planting. For cotton, limit the number of over-the-top applications from 4 to 2 (soybeans remain at 2 OTT applications).
- Applications will be allowed only from 1 hour after sunrise to 2 hours before sunset
- In counties where endangered species may exist, the downwind buffer will remain at 110 feet and there will be a new 57-foot buffer around the other sides of the field (the downwind buffer applies to all applications, not just in where endangered species may exist)
- Clarify training period for 2019 and beyond, ensuring consistency across all three products
- Enhanced tank clean out instructions for the entire system
- Enhanced label to improve applicator awareness on the impact of low pH's on the potential volatility of dicamba
- Label clean up and consistency to improve compliance and enforceability

Source: <https://www.epa.gov/ingredients-used-pesticide-products/registration-dicamba-use-dicamba-tolerant-crops>

A more detailed press release from the EPA is here: <https://www.epa.gov/newsreleases/epa-announces-changes-dicamba-registration>.

Annual dicamba-specific training is still required for the use of these products, in addition to a private or commercial pesticide applicators license. Therefore, training completed in 2018 needs to be repeated to legally apply in 2019. In

Virginia, trainings will delivered by the registrants (BASF, Bayer, or Corteva) both in-person and online. I will post further details on when, where, or how to schedule a training as these details become available. Training requirements to apply these products in North Carolina were different than Virginia for 2018, which I anticipate will continue in 2019.

VDACS: Virginia Crop Production Mixed, Weather a Factor

Summary by: VA Agribusiness Council
The Virginia Department of Agriculture and Consumer Services announced the release of the November Crop Production report. The report, which comes from USDA's National Agricultural Statistics Service (NASS), shows mixed results with some agricultural products forecasting higher than previously announced and some forecasting lower. The Richmond area saw the fifth wettest summer since 1930, which influenced crop yields.

Results come from a survey of Virginia farmers earlier in the month.

Corn production in Virginia is forecast at 48.8 million bushels, unchanged from the October forecast and up 3 percent from the previous crop. Yield was estimated at 148 bushels per acre, unchanged from last month and up 8 bushels from the 2017 level. Acres for harvest as grain were estimated at

330,000 acres,
down 10,000
acres from 2017.



VDACS Continued...

Soybean production for Virginia is forecast at 26 million bushels, up 2 percent from the October forecast and unchanged from 2017. Yield was estimated at 44 bushels per acre, up 1 bushel from last month and unchanged from a year ago. Acreage for harvest as beans was estimated at 590,000 acres, unchanged from the previous year.

Virginia cotton production is projected to be 195,000 bales, down 5 percent from the October forecast but up 2 percent from last year. Cotton yields are forecast to average 965 pounds per acre, down 49 pounds from last month and down 145 pounds per acre from the previous year.

Producers expect to harvest 97,000 acres, unchanged from the October forecast and up 14,000 acres from 2017. Peanut farmers in Virginia anticipate harvesting 98.4 million pounds for 2018, down 18 percent from last year. Acres expected to be harvested total 24,000 acres, down 3,000 from last year. Producers expect a yield of 4,100 pounds per acre, down 340 pounds from 2017.

You can find the full press release here: <https://tinyurl.com/vdacsreport2018>

Thank you to the VA Agribusiness Council for this article! You can learn more about the Council at: <http://www.va-agribusiness.org/>

Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State, Petersburg.

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

ABOUT VCE

This agriculture newsletter is created by Virginia Cooperative Extension—Central District Extension Agents as part of our outreach and public efforts. If you have questions, comments, or information for the newsletter, please contact Lindy Fimon via email at tucker07@vt.edu or via cell at (434) 321-2009.

Information and flyers for our programs can be found on Google Drive: [here](#). Please contact your local office to get on mail or email lists.

You can find a list of local offices online: <https://ext.vt.edu/offices.html>

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