BECOME A MARYLAND CERTIFIED PRIVATE PESTICIDE APPLICATOR

If you have allowed your Private Pesticide Applicator Certification to expire or are a new applicant, then you are invited to attend the Private Pesticide Applicator Certification Training and Examination. It’s a three step process:

Step 1: Register for the training by calling 410-386-2760 at least one week before training date. Stop by the Carroll County Extension Office (or any University of Maryland Extension office) to pick up a copy of the new Maryland Pesticide Applicator Core Manual. Read the manual and go over the review questions at the end of each chapter and practice exam.

Step 2: Private Applicator Certification Training will be conducted at the Carroll County Extension Office (Rooms K, A, & B) from 10 am – Noon on November 13, 2013.

Step 3: Private Pesticide Applicator Exam will be given at the Carroll County Extension Office (Library) from 10 am – Noon on November 20, 2013.

OR

Step 2: Private Applicator Certification Training will be conducted at the Carroll County Extension Office (Rooms K, A, and B) from 10:00 am – Noon on February 5, 2014.

Step 3: Private Pesticide Applicator Exam will be given at the Carroll County Extension Office (Library) from 10:00 am – Noon on February 12, 2014.
PESTICIDE APPLICATOR RECERTIFICATION

If your Maryland Pesticide License will expire on December 31, 2013 it is time to attend recertification training. To facilitate RECERTIFICATION your Carroll County Extension office will have two separate RECERTIFICATION opportunities for you to attend - Rooms K, A, and B. They will be November 20, 2013, 10am - Noon, and February 12, 2014, 10am – Noon. Preregistration one week in advance is required. Call (410-386-2760) early to reserve your space as seating is limited and goes quickly. **Be sure to bring your Pesticide License Number with you.**

A third opportunity for Pesticide Recertification is being offered on December 5, 2013, 8:30am-3:30pm at the Carroll/Baltimore Field Crops Day at Friendly Farms, Upperco, Maryland. More information on this meeting will follow in future issues of Farm Notes.

NUTRIENT MANAGEMENT VOUCHER TRAINING

Every three years you need to update/renew your MDA nutrient management voucher. Sessions have been scheduled this fall to provide you the opportunity to meet MDA’s every three year requirement. Trainings are scheduled for November 7, 2013, 10am – Noon and December 17, 2013, 6pm-8pm at your Carroll County Extension office. Please call (410-386-2760) at least one week in advance to reserve your seat. If you have any questions please call the Extension office at 410-386-2760.

If you do not have a nutrient management voucher and need one this training will also meet that need.

UPCOMING DAIRY CATTLE WEBINARS

These webinars are geared toward bringing pertinent information to dairy producers, extension educators, allied industry professionals, and veterinarians across the United States.

We would like to thank the National Association of County Agricultural Agents for co-sponsoring this webinar series. Please visit them [here](http://www.extension.org/pages/15830/archived-dairy-cattle-webinars#.UINsvX-wUas).

Sessions will be recorded and archived at [http://www.extension.org/pages/15830/archived-dairy-cattle-webinars#.UINsvX-wUas](http://www.extension.org/pages/15830/archived-dairy-cattle-webinars#.UINsvX-wUas) to be available for those who could not attend the live session.

All of our live sessions will be conducted via Adobe Connect. To attend a live session you will need to:

- Go to [https://connect.extension.iastate.edu/dairexnetwebinar/](https://connect.extension.iastate.edu/dairexnetwebinar/) at the appointed time for the webinar you wish to attend
- Select "Enter as a Guest"
- Type your name in the box; if you are attending as part of a group, please indicate at the end of the name how many people are in the group, including yourself.
- Click "Enter" to join the webinar
- Once you enter the meeting room, the audio portion of the webinar will come through your computer speakers. All you will need to do to hear the presentation is enter the meeting room and ensure that your speakers are on.

Note: You may use [https://connect.extension.iastate.edu/common/help/en/support/meeting_test.htm](https://connect.extension.iastate.edu/common/help/en/support/meeting_test.htm) at any time before the meeting to confirm your computer's ability to connect to the Adobe Connect session.
Economic Benchmarks for Dairies: Eight Rules You Cannot Break
Gary Sipiorski, Vita Plus
October 7, 2013 12:00 PM Central Time
There are many financial benchmarks and ratios a lender will use to evaluate a dairy farm’s financial position and progress. During this webinar, Dr. Sipiorski will sort out and discuss 8 key items that are critical for a dairy producer to monitor.

Discovering Hidden Feed Costs for the Milking Herd
Dr. Michael Brouk
November 7, 2013 12:00 PM Central Time

Critical Economic Decisions when Raising Heifers
Dr. Jason Karszes
December, 2013

Basic Vaccinology: Why Vaccines Work or Don't Work
Dr. Dan Grooms
January 13, 2014 12:00 PM Central Time

Forage Fermentation: How to Make Good Silage
Dr. Limin Kung
February 2014

GREENHOUSE PRODUCTION CONFERENCE
A Greenhouse Production Conference has been scheduled for anyone interested in starting a greenhouse to experienced greenhouse operators. The conference is sponsored by the University of Maryland Extension and Maryland Greenhouse Growers Association.

The workshop will be held on Thursday November 7th from 8:00 am to 4:30 pm at Chesapeake College Higher Education Center EC110. Topics will include: Business Strategies, Calibrating Your Fertilizer Injector, Greenhouse Diseases, Biological and Chemical Control Aphids and Thrips, Fertility, Combo Baskets, Vegetable Transplants, Organic Transplants and other new crops.

These sessions will be taught by University specialists, educators, scouts and experts from the field. Maryland Pesticide and Nutrient Management Credits will be available at this conference.

Registration fee $25 per person. This fee includes the workshop materials, continental breakfast and lunch.

For more information or to register contact the Talbot County Extension Office at 410-822-1244 or sdill@umd.edu. Registration is due by November 1st and can be done online at www.greenhouseconference.eventbrite.com

The conference is open to anyone. If you have any special needs for the conference please contact the Talbot County Extension Office.

Source: Shannon Dill, UME Talbot County
MARYLAND FARMERS PROTECT THE BAY EVERY DAY - BUMPER STICKER CONTEST

Every day Maryland farmers manage their land to limit nutrient and sediment runoff, produce food and fiber, help sustain rural economies and contribute to the food security of our nation. Farmers plant stream buffers, restore wetlands, properly manage manure, and implement conservation practices to reduce pollution to streams, rivers and the Chesapeake Bay to improve water quality today and for the future.

To acknowledge this significant contribution to a healthy Chesapeake Bay, the Maryland Grain Producers Association (MGPA) is conducting a contest to design a “Maryland Farmers Protect the Bay Every Day” bumper sticker. Winning designs will be produced and made available at no cost to auto owners. Grand prize $300. For more information go to http://www.marylandgrain.com/Contest.htm

Source: MGPA

MID-ATLANTIC REGIONAL AGRONOMIST QUARTERLY NEWSLETTER

www.mdcrops.umd.edu

PRODUCER’S DIGITAL TOOLBOX

When: December 13, 2013

Time: 1 day Seminar (9:30 AM - 2:00 PM) Check in is from 9:00-9:30 AM

Workshop focus: An introduction to the basics of popular social networking sites (Facebook, Twitter, LinkedIn), how to list your business on digital databases such as Google Maps, and capitalize on the hardware and digital tools available through the internet. Presented by University of Maryland Extension. For more information about this program please contact the coordinators: Shannon Dill: sdill@umd.edu or Ginger S. Myers: gsmyers@umd.edu. This class is open to all interested. If special assistance is required please contact the coordinators at least two weeks prior.

Where: UME - Baltimore County
1114 Shawan Road, Cockeysville, MD 21030

Cost: $40 per person (includes lunch and course materials).

RSVP: Advanced registration is required! Please register by December 9. TO REGISTER VISIT: http://digitaltoolbox3.eventbrite.com

Source: Shannon Dill: sdill@umd.edu or Ginger S. Myers: gsmyers@umd.edu

TAKING ANOTHER ALFALFA HARVEST?

Consider these things when deciding to take an alfalfa harvest during the “critical period”.

Not harvesting alfalfa 4-6 weeks (critical period) before the 1st killing frost has been a long standing recommendation. That is still very safe advice! However, the dry weather some areas experienced in August may moderate that recommendation. Perhaps the risk of a cutting during that “critical period” is outweighed by potential increased profits. Below are some things to consider when deciding to take an alfalfa harvest during the “critical period”. Assessing the risks can be helpful in making the “best” decision.
• Age of stand: Older alfalfa stands are more likely to winter kill or suffer winter injury following a fall harvest than younger alfalfa stands.
• Variety: Alfalfa varieties with moderate resistance to several diseases and sufficient winter hardiness have greater tolerance to stress from fall harvesting than less disease resistant or winter hardy varieties.
• Soil pH and fertility: Adequate soil pH and fertility minimizes the risk of fall harvesting by allowing alfalfa plants to develop properly and be healthier.
• Soil drainage: Alfalfa on well drained soils is less likely to suffer winter injury than alfalfa on poorly drained soils.
• Harvest frequency: Alfalfa harvest schedules which do not allow the alfalfa plant to flower once during the season, predisposes the plant to winter injury.
• Dry conditions in August: Dry weather, especially in August, causes alfalfa to store excess root energy reserves making it more winter hardy.
• Fall cutting height: Leaving six to eight inches of stubble when taking a fall harvest will reduce the risk of winter injury.

Source: Marvin Hall, Professor of Forage Management, PNST Extension

WEED MANAGEMENT CONSIDERATIONS FOR NO-TILL SMALL GRAINS

We have discussed this in the past, but it probably requires a review again with no-till wheat and other seedings commencing.

• For no-till establishment of winter cereals, glyphosate or Gramoxone can be used to control emerged vegetation prior to small grain emergence.

• The Banvel, Clarity and other dicamba labels state that application may be made before, during, or after planting of small grains. Banvel may be applied at 2 fl. oz. /A or Clarity at up to 4 fl. oz. /A with any glyphosate formulation labeled for use as a pre-plant application to small grains with no waiting period prior to planting. East of the Mississippi River, for barley, oat, wheat, and other grass seedings, the interval between application and planting is 15 days per 8 fl. oz./A applied.

• The 2,4-D use guidelines are less clear. None of the 2,4-D labels specify application just prior to wheat or other small grain planting/emergence. The most relevant guidelines on most 2,4-D product labels pertain to use on “fallow ground” or between crops. These guidelines state that only labeled crops may be planted within 29 days after application and that risk of crop injury or loss is greatest during the first 14 days. The more soluble amine formulation certainly increases the risk for injury. Although there is some risk of stand reduction and injury to small grains from 2,4-D, application a minimum of 7 days ahead of planting at a pint/A or less should reduce this potential. The use of 2,4-D burn-down in wheat is ambiguous at best. If injury occurs, liability rests with the consultant or applicator.

• Sharpen may be applied pre-plant or pre-emergence at 1 to 2 fl oz/A to wheat, barley, rye, and triticale to help with burn-down and/or provide limited residual control of certain broadleaf weeds. The 2 oz. rate will provide limited residual control of broadleaf weeds. To broaden the spectrum, Sharpen can be tank-mixed with Clarity (dicamba) or glyphosate. Do not apply Sharpen to emerged crops.

Source: William Curran, Professor of Weed Science, and Dwight Lingenfelter, Program Development Specialist, PNST Extension
Dry soil provides opportunity to remediate soil compaction

Even many of those perpetual wet spots have dried up, opening an opportunity to alleviate soil compaction using sub-soilers.

Modern sub-soilers have straight shanks, may have winged points to increase subsoil fracturing, and have attachments to limit soil blowout- and residue disturbance.

Dry weather is pervasive across the state of Pennsylvania this fall. This means even many of those perpetual wet spots have dried up, opening an opportunity to alleviate soil compaction using subsoilers. Soil compaction affects soil physical, chemical and biological properties negatively for crop growth. It leads to increased bulk density, reduced porosity, increased penetration resistance, and reduced water infiltration and percolation. Soil compaction also increases the potential for denitrification and ammonia volatilization due to reduced aeration and water infiltration. Uptake of potassium and phosphorus is reduced due to root growth inhibition and reduction in soil biological activity. So it is important to minimize compaction. But common field activities using heavy equipment, especially when soil is wet, trampling by livestock and soil tillage may have caused soil compaction in the past.

To identify problem soil compaction use both soil and crop observations. The soil compaction tester, or penetrometer is one means of compaction detection, but it is not useful now since soil conditions are too dry. Instead, take a shovel and dig a hole with a vertical face perpendicular to the crop rows. Push a knife horizontally into the soil profile for about 1 inch starting from the top. You may be able to feel a distinct layer with higher resistance just below common tillage depth. If roots are clearly restricted at a certain depth this may call for action. Also evaluate the soil structure. Compacted soil structure is massive and does not fall apart in small aggregates whereas root growth is restricted to the cracks between clods.

It is important to evaluate the soil to determine if sub-soiling will be beneficial. Our research has shown that our most common agricultural soils do not benefit from sub-soiling unless they are severely compacted. We are now evaluating sub-soiling on soils with naturally compacted sub-soils called fragipans but still need more years to evaluate the practice. The recommendation is therefore not to use a sub-soiler unless the soil is severely compacted. If you decide that sub-soiling is justified, it is time to decide which sub-soiler to use, and how to set it.

There are different types of sub-soilers. With the recognized benefits of surface residue preservation, modern sub-soilers do not turn surface soil over. Modern sub-soilers therefore tend to have narrow shanks, are not parabolic, and may have attachments that actually help to keep residue in place. There are different types of sub-soilers that can be used without disturbing surface residue much: Some have large winged points that heave the soil and cause much fracturing of the soil, even between shanks. Others, such as the paratill unit, have bent-leg shanks (not common in Pennsylvania). The shanks come down straight, then curve sideways on a 45o angle, whereas the tip is again positioned downwards. Research at the Soil Dynamics Lab in Alabama has shown that paratill shanks do maximum subsurface fracturing, take less power per shank than straight shanks, and do minimum surface residue disturbance. Despite what some manufacturers may say, in my opinion, it is best to use sub-soilers only under reasonably dry soil conditions. This means you should not be able to make a ball of soil by kneading it in your hand. The soil has to be that dry anywhere in the profile to the depth of tillage.

Contemporary sub soiling is meant to be a one-pass operation so that crops can be planted immediately after sub soil ing without secondary tillage. The choice of attachment is very important because it determines surface residue reduction to a large degree. Soil tends to ‘blow out’ behind the shanks (especially when run at higher speeds) so attachments are available to push soil back to create a suitable seed bed. To achieve soil conservation goals, more than 30% residue cover should be present after sub-soiling and planting, so attachments should not cover residue but leave it on top. Kick-back mechanisms are another necessity on sub-soilers. If not present, shear bolts will have to be replaced on a regular basis in our rocky soils, making sub-soiling an arduous task. Next is the depth to which the
shanks should be set. The sub-soiler should be set approximately 1 inch below a compacted layer (if present). A tractor that can pull the sub-soiler needs to be available. Depending on soil conditions, you should count on approximately 40-50 HP available per shank.

Once sub-soiling has been completed, it becomes necessary to have a plan in place to manage traffic after sub-soiling and build soil structure. The benefits of sub-soiling are easily lost by recompaction with heavy equipment. In fact, the situation will be worse than before sub-soiling, because the sub-soiled field is more susceptible to rutting. Therefore, use flotation tires on all equipment and reduce tire pressure as much as possible to benefit from a large foot print. Do not exceed 10 ton axle loads, and limit repeated traffic to select areas of the field that can then be treated if needed. After sub-soiling, plant cover crops to increase root mass in the surface and subsoil and rotate crops with different root architectures, such as tap-rooted and fibrous-rooted crops.

Source: Sjoerd Duiker, Associate Professor of Soil Management and Applied Soil Physics, PNST Extension

“ADVANCING SUSTAINABLE WOOD ENERGY IN MARYLAND”

2013 Maryland Wood Energy Conference
Sponsored by Maryland Wood Energy Coalition
Wednesday, October 30, 2013
8:30 am – 4 pm

Sheraton Annapolis Hotel, 173 Jennifer Road, Annapolis, MD 21401
Cost: $45 per person

Approved for 4.5 Category 1 Society of American Foresters CFE Credits

Hosted by the Maryland Wood Energy Coalition, a diverse group of state agencies, non-profits, and private businesses committed to advancing the responsible use of Maryland’s vast supply of woody biomass for clean, affordable energy production. The Coalition hosted the first Maryland wood energy conference last November. Audio presentations of last year’s conference and a research-based document “The Prospectus for Advancing Biomass Thermal Energy in Maryland,” are available at [http://www.agroecol.umd.edu/educationoutreach/MD%20Wood%20Energy.cfm](http://www.agroecol.umd.edu/educationoutreach/MD%20Wood%20Energy.cfm)

This year’s conference will build on the momentum of last year’s successes. This includes new regulations that makes using wood as fuel in boilers to heat commercial and institutional buildings legal, paving the way for the growth of the wood energy industry. Examples of real-life projects, applications, and opportunities are provided. This event will address new incentives that will establish Maryland as a leader in wood heat policy and address new federal legislation that would provide tax incentives similar to those for solar, wind, and geothermal. Speakers will address new advances in residential wood heat, improvements in the wood stove grant program, how to broaden the coalition of stakeholders, and how to initiate on-the-ground projects that will grow the wood energy industry. The event will obtain feedback from government officials, interest groups, and other stakeholders on how to overcome remaining barriers and move forward the adoption of wood energy for residential and commercial/institutional applications. This is a unique opportunity – don’t miss out!

Thanks to the support of the forum’s sponsors, the registration cost is $45 per participant. Registration includes a great program, continental breakfast, lunch, and meeting materials. In addition, the event is approved for 4.5 CFE Category 1 Continuing Education Credits from the Society of American Foresters.
The meeting agenda and registration form is attached. This information along with sponsor information will be available online by September 12 at www.agroecol.umd.edu. For questions or additional information, contact Nancy Nunn at (410) 827-6202, ext. 128 or nnunn@umd.edu or Pam Thomas at 301-432-2767, ext. 315 or pthomas@umd.edu

Maryland Wood Energy Coalition:
Alliance for Green Heat
American Wood Fiber, Inc.
Association of Forest Industries
Cambridge Environmental Technologies, Inc.
College of Agriculture & Natural Resources - University of Maryland Extension & MD Agriculture Experiment Station
Harry R. Hughes Center for Agro-Ecology
Maryland/Delaware Society of American Foresters
Maryland Department of Natural Resources Forest Service
Maryland Energy Administration
Maryland Forests Association
Maryland Forestry Board Foundation
The Pinchot Institute for Conservation

Source: Andrew A. Kling, Extension Program assistant, University of Maryland Extension, Western Maryland Research & Education Center 18330 Keedysville Road, Keedysville, MD 21756, (301) 432-2767 x307 – phone, akling1@umd.edu

FOOD FOR PROFIT

Whether it’s making gourmet jams or jellies, baking bread and cakes, catering festive events or creating and packaging special dinners for one, food related businesses are becoming increasingly popular as a way to earn a living (or to add to your income). The cook’s creative flair, combined with business practicality will succeed even in tough economic times, if the enterprise is given the appropriate research and planning before its launch.

University of Maryland Extension’s Food for Profit workshop takes you step by step through the information necessary to start and run a small food product business. Although appropriate for any food business owners who want to develop their venture proactively, the workshop is especially directed to individuals who will be making and packing their products for resale.

Food for Profit is a very practical session, providing information that you will be able to use immediately to ensure that your business starts out and grows in a way that matches your vision and goals. Guiding food entrepreneurs through the initial steps to start a business, this workshop combines educational presentations, guest speakers and a highly interactive learning environment to address: getting started, regulations, developing a plan, food safety, packaging and financing.

Sessions are being held around the state. The tuition cost of $40 per person includes all materials and lunch. Pre-registration is required one week prior to the event, and may be accomplished on-line at www.foodforprofit.eventbrite.com, or by calling the hosting extension office. This program is open to anyone interested in food enterprises.

Fall Sessions:
October 11 - Harford County Extension Office, Forest Hill, MD
October 24 - Cecil County Administration Building, Elkton, MD
November 19 - Chesapeake College, Wye Mills, MD

Source: UME
Determining a value of standing corn can be challenging and there are a number of factors that affect its value. Penn State Extension has developed a Pricing Corn Silage spreadsheet [http://extension.psu.edu/business/farm/management/financial-management/calculators/corn-silage/CornSilage.xls/view](http://extension.psu.edu/business/farm/management/financial-management/calculators/corn-silage/CornSilage.xls/view) to assist crop farmers and the livestock or dairy farmer who may be interested in buying silage. The spreadsheet allows you to put in your values for: price per bushel, potential grain and silage yield, dry matter, cost of nutrients, silage and grain discount, grain and silage hauling, combining and chopping cost, dry matter loss and storage cost. Depending on the values a grower puts in the spreadsheet they may find the value of standing corn for corn silage is around $30 per ton.

### Grain Grower's Perspective:

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Source: Andrew Frankenfield, Agricultural Educator, PNST Extension, Email: adf13@psu.edu

### LOCAL ANIMALS UNLIKELY SOURCE OF DRUG-RESISTANT SALMONELLA

A new study has shown that, contrary to popular belief, local domesticated animals are unlikely to be the major source of antibiotic-resistant salmonella in humans, based on a detailed study of DNA from more than 370 salmonella samples collected over a 22-year period, according to an announcement from the Wellcome Trust Sanger Institute in the U.K.
By studying the genetic variation in salmonella bacteria and their drug-resistance genes, researchers found that distinguishable bacterial populations exist in human and animal populations living side by side, the announcement said.

By comparing the salmonella genomes in humans and animals, the researchers have provided important new insights into the likely sources and spread of antibiotic resistant infections. First, the salmonella bacteria largely remained within their original host populations, and second, there were more varied combinations of drug resistance in the human-infecting bacteria, according to the announcement.

"For the first time we've determined in detail and on a large scale how salmonella strains taken from humans and animals in the same setting and over the same time period relate to each other," Dr. Alison Mather of the Wellcome Trust Sanger Institute and first author said. "Our genomic data reveal how the salmonella bacteria spread during the course of a long-term epidemic. We found that people have a more diverse source of infection and antibiotic resistance than just the local animals, pointing towards alternative sources."

The team sequenced DNA from 373 samples from humans and animals infected with Salmonella Typhimurium DT104 over a 22-year period, mainly from Scotland, but also from other countries. This is the largest study of its type; whole genome DNA sequencing delivers the highest level of resolution possible to examine how closely related the bacteria are, enabling the team to unravel the details of this epidemic, the announcement said.

The team discovered that, contrary to much current thinking, the populations of salmonella in humans and animals were distinguishable. They also found that the estimated number of times that the bacteria had jumped from animals to humans (and vice versa) was remarkably low. In addition, there was greater diversity in antibiotic resistance genes in salmonellae isolated from humans. Taken together, these findings suggest that the contribution of local animal populations to human infections with S. Typhimurium DT104 may previously have been overstated, the institute concluded.

"This is a study that uses the latest genomic approaches and a unique collection of samples to address a significant public health problem," says Professor Nicholas Thomson, senior author from the Wellcome Trust Sanger Institute. "Our data provide a very simple message, challenging the established view that local animals are the predominant source of salmonella infections in Scotland. This finding will reinvigorate discussions on the sources of antibiotic-resistant salmonella infections in humans in other environments."

The team speculated that international travel and imported foods may be major sources of antibiotic-resistant strains of salmonella. However, to understand fully the routes of infection and find ways to prevent it, further research into other bacteria and other environments will be needed.

The research was published as: Mather AE et al. 2013. Distinguishable Epidemics of Multidrug Resistant Salmonella Typhimurium DT104 In Different Hosts. Science Express, published online 12 September 2013.

MDA RAISES COST-SHARE CAPS FOR DAIRY MANURE TRANSPORT; LOCAL SOIL CONSERVATION DISTRICTS NOW ACCEPTING GRANT APPLICATIONS

The Maryland Department of Agriculture (MDA) today announced that it has raised its cost-share funding caps for qualifying dairy and other non-poultry producers who transport manure within their own operations or to other farms where the manure can be used safely and in compliance with a current nutrient management plan. Effective
immediately, qualifying farmers may receive up to $15,000 per season or $30,000 per year in cost-share assistance to transport manure. The current limit for individual farms is $7,500 per year.

Farmers interested in applying for grants through the Manure Transport Program (http://mda.maryland.gov/resource_conservation/Pages/manure_management.aspx) should contact their local soil conservation district or call the Maryland Department of Agriculture at 410-841-5864.

Source: MDA

DATES TO REMEMBER

October 8  Bermudagrass For High Animal Use Areas Training-9 to 4 pm, Howard County Fairgrounds, West Friendship, MD, Contact: 301-504-8743 or email rjay.ugiansky@md.usda.gov

October 10 Bermudagrass For High Animal Use Areas Training-9 to 4 pm, University Of MD Eastern Shore, Princess Anne, MD, Contact: 301-504-8743 or email rjay.ugiansky@md.usda.gov

November 7, 14, 21 Agricultural Entrepreneurial Business Plan Course-6:30 to 9 pm, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760

November 7 Agribusiness Breakfast-Fracking and Agriculture by Drew Cobb, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

November 7 Nutrient Management Voucher Training-10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760 to register.

November 7 Greenhouse Growing With A Positive Bent-8:20 to 4:30 pm, Chesapeake College, Wye Mills, MD, Contact: sdill@umd.edu or 410-822-1244

November 13 Private Applicator Certification Training-10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760 to register.

November 20 Private Applicator Certification Exam-10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760 to register.

November 20 Private Pesticide Applicator Recertification-10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD Contact: 410-386-2760 to register.

December 5 Carroll/Baltimore Field Crops Day- 8:30 to 3:30 PM, Friendly Farms, Upperco, MD, Will count towards Private Pesticide Applicator Recertification. More information to follow in future Farm Notes issues.

December 5 Agribusiness Breakfast-Transition To the County Law Enforcement Agency and Agriculture by Col. Phil Kasten, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

December 17 Nutrient Management Voucher Training-6 to 8 pm, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760 to register.
January 2  **Agribusiness Breakfast**—What’s Coming In Annapolis? by Delegate Susan Krebs, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

February 5  **Private Applicator Certification Training**—10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760 to register.

February 6  **Agribusiness Breakfast**—DNR and Crop Damage by Paul Perditto, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

February 12  **Private Applicator Certification Exam**—10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386-2760 to register.

February 12  **Private Pesticide Applicator Recertification**—10 to Noon, Carroll County Extension Office, 700 Agriculture Center, Westminster, MD, Contact: 410-386 2760 to register.

March 6  **Agribusiness Breakfast**—What’s New for Farmland Preservation by Ralph Robertson, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

April 3  **Agribusiness Breakfast**—A New Look For 4-H In Carroll County by Kim Dixon, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

May 1  **Agribusiness Breakfast**—Growing Hops and Brewing Beer In Carroll County by Henry Ruhlman, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

June 5  **Agribusiness Breakfast**—Celebrate Dairy Month by Diane Flickinger, 8 am, Baughers Restaurant, Westminster, MD, Must call to register at 410-386-2760 to attend.

Visit our web site at http://carroll.umd.edu  For more event listings visit http://www.agnr.umd.edu/AGNRCalendar/
Yours for better farming from your Carroll County Agriculture Extension Educators,

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If you would like to be removed from our mailing list, please call: 410-386-2760 or 1-888-326-9645.
If you have a disability that requires special assistance for your participation in a program please contact the Carroll County Extension Office at 410-386-2760, Fax: 410-876-0132, two weeks prior to the program.

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