Dave’s Ramble

“I’m killing every weed I see,” cried the hoer. “Well, kill them a little faster, I’m paying!” retorted the farm boss. That’s right, when it comes to weeds, we all pay.

Weeds are the enemy, often to the complete dismay and utter embarrassment of the farmer. They inspire us to great campaigns of mechanical, biological and chemical tactics of warfare; yet, we are always a mere six weeks away from defeat. The studied agronomist, weed scientist and farmer must resign to this truth; Weeds will win!

The farmer beams as the crop emerges in perfectly straight rows with polished soil warming in the May sun. The farmer leans on the hoe, sips some ice-tea, as visions of fair ribbons dangle in his head.

Friends come by in June and wag their heads at the fields, eager to point out the weed patches with a chuckle. The agitated farmer enlists a motley crew to hoe as he suits up for chemical battle. The herbicide mist and hoe dust settles by evening; a crop once again prevails.

The latter rains and the hot July days are the last assault; the crop disappears amongst the thorns and thistles. The farmer enlivens the largest tractor with a bushhog attached to wipe away all tares.

The real beauty of this waxing and waning of crops and weeds is the creation of a perfect job security plan for agriculture. It often amazes me that everyone that plants thinks that they are a farmer; however, the farmer is the one who prevails and sells a crop. There are few that follow those footsteps. In the end, we all pay for a farmer!

Calendar of Events
Mark Your Calendars --- Plan To Participate

♦ November 19-21 - Crop Mgmt. School - Ocean City
♦ December 3 - Southern MD Crops Dinner - Waldorf
♦ December 10 - Crops IPM Workshop NM/PAT - Ext Office
♦ January 14 - Pesticide Certification Training - Ext Office
♦ January 15 - Southern MD Forage Conference - Waldorf
♦ January 28 - Pesticide Certification Exam - Ext Office
♦ January TBA - Central MD Vegetable Meeting - Upperco
♦ February 5 - So. MD Vegetable & Fruit Mtg - Gambrills
♦ March 18 - Pasture & Crop Workshop NM/PAT - Ext Office
♦ April 4 - On-Line Nutrient Voucher Recertification
♦ April 11 - On-Line Pesticide Applicator Recertification

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• Growing Grapes for Wine Program Grant
• MDA News
• USDA News
FALL & WINTER MEETINGS

Mark your calendars now and plan to be a part of the fall and winter meetings.

Mid-Atlantic Crop Management School
November 19-21, 2013

The Mid-Atlantic Crop Management School will be held at the Princess Royale Hotel in Ocean City on November 19-21, 2013. Individuals seeking advanced training in soil and water, soil fertility, crop production and pest management will have an opportunity at hands on, intensive sessions that also provide continuing education units (CEU's) for the Certified Crop Advisor (CCA) Program.

To register contact Josh McGrath at 301-405-1351 or by email: mcgrathj@umd.edu.

Southern Maryland Crops Dinner Conference
December 3, 2013

The Southern Maryland Agents would like to invite everyone to join with our University specialists to have your questions answered about crop production and pest control at the Southern MD Crops Conference December 3, 2013, 4:00 to 8:30 p.m. at the Baden Firehouse Hall in Brandywine, MD.

Attendance at this conference will satisfy the requirement for the Private Pesticide Applicator Recertification & Nutrient Management Voucher.

Please call your local Extension office to register.

Crop Sustainability & IPM Workshop
Pesticide Recertification & Nutrient Management Voucher Training
December 10, 2013

Make plans to attend the Crop Sustainability & IPM Workshop, Pesticide Recertification, Tuesday, December 10, 2013 at the Anne Arundel Extension Office from 6:00 p.m. to 9:00 p.m. This workshop will explore advanced crop production practices focusing on sustainability, food security and integrated pest management tactics. Topics will include: Crop selection; integrated crop management; soil fertility; weed control; insect control; and disease control for field crops, fruits and vegetables.

Private Pesticide Applicator Recertification & Nutrient Management Voucher Recertification will be awarded for full class participation.

To register for this event contact the Anne Arundel County Extension Office at 410-222-3906.

Central Maryland Vegetable Growers Meeting

This well sponsored, large grower meeting always offers a great deal of vegetable industry information. The Central Maryland Vegetable Growers Meeting date and location TBA. Pesticide recertification credits are awarded for attending this meeting. For full meeting details, and to register call the Baltimore County Extension Office at 410-666-1024 today.

Southern Maryland Vegetable & Fruit Production Meeting
February 5, 2014

Make plans to attend the Southern Maryland Vegetable and Fruit Production Meeting on February 5, 2014, in Gambrills, MD. This meeting will provide Private Applicator Recertification & Nutrient Management Voucher Recertification. Speakers will provide IPM updates and present on a broad range of production topics.
Also meeting sponsors will showcase their products and services, and state vegetable organization leaders will be present to recruit and answer your questions. Please attend and make this meeting the best ever.

Please call your local Extension office to register.

Field Crops & Pasture IPM Workshop
March 18, 2014

Make plans to attend the Field Crops & Pasture IPM Workshop, Tuesday, March 18, 2014 at the Anne Arundel Extension Office from 6:00 p.m. to 9:00 p.m. This workshop will explore advanced concepts of pasture and field crop production in the Southern Maryland region from establishment to harvest, including animal utilization. Topics will include: Crop selection; integrated crop management; soil fertility; weed control; insect control; and disease control for soybeans, corn, wheat, barley and hay crops.

Private Pesticide Applicator Recertification & Nutrient Management Voucher Recertification will be awarded for full class participation.

To register for this event contact the Anne Arundel County Extension Office at 410-222-3906.

Live On-Line Session
Nutrient Management Voucher Recertification
April 4, 2014

If you would like the opportunity to learn from home, yet still be engaged, then be sure to enroll in the Live On-Line Nutrient Management Voucher Recertification Training, scheduled for April 4, 2014 from 4:00 to 6:00 p.m.

This session will focus on fertility and production related topics for all field crops, fruits and vegetables. This Adobe Connect recertification session will be live via the internet directly from the University of Maryland. Adobe Connect is a student interactive system that will document your attendance. To participate in a live Adobe Connect session a high speed cable or satellite internet connection is required.

Nutrient Management Voucher Recertification credit will be awarded for full 2-hour session participation.

Registration by April 2nd is required in order to receive Adobe Connect login instructions.

To register for this on-line event contact the Anne Arundel County Extension Office at 410-222-3906.

Vegetable Crop Insect Update
By Joanne Whalen
DE Extension IPM Specialist
jwhalen@udel.edu

Cole Crops
Continue to sample for cabbage looper, diamondback larvae, beet and fall armyworms and Harlequin bug. Although the pyrethroids will provide control of Harlequin bugs they are not effective on beet armyworm or diamondback. Be sure to scout and select controls options based on the complex of insects present in the field.

Lima Beans
Continue to scout for stink bugs, lygus bugs, and corn earworm. A treatment will be needed if you find one corn earworm larvae per 6 ft-of-row. We have also found soybean loopers in fields. Remember that they are a migratory pest, difficult to control and pyrethroid resistance has been documented in states to our south. If they are present in the mix, you will need to select a material labeled for soybean loopers. Be sure to check the label for rates, restrictions (including plant back/rotational crop restrictions) and days from last application to harvest.
Peppers
At this time of year, corn borer, corn earworm, beet armyworm and fall armyworm are all potential problems in peppers. So be sure to select the material that will control the complex of insects present in the field. Be sure to check local corn borer and corn earworm moth catches in your area by calling the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851) or our webpage at http://agdev.anr.udel.edu/trap/trap.php.

We continue to see aphid populations increasing, especially in fields where pyrethroids have been used on a weekly basis. Labeled materials are only effective if applied before populations explode.

Snap Beans
At this time, you will need to consider a treatment for both corn borer and corn earworm. You should also watch for beet armyworms and soybean loopers. Sprays are needed at the bud and pin stages on processing beans for worm control. With the diversity of worm pest that may be present in fields, be sure to scout fields and select materials that will control the complex of insects present. You will need to check our website for the most recent trap catches to help decide on the spray interval between the pin stage and harvest for processing snap beans:
http://agdev.anr.udel.edu/trap/trap.php


Spinach
Be sure to watch for webworms and beet armyworms. Both moths are active at this time and controls need to be applied when worms are small and before they have moved deep into the hearts of the plants. As a reminder, the pyrethroids have not provided effective beet armyworm control in past years. Remember that both insects can produce webbing on the plants. Generally, at least 2 applications are needed to achieve control of webworms and beet armyworm.

Sweet Corn
With the increase in corn earworm trap catches, be sure that a spray is applied as soon as ear shanks are visible on plants. Once fields are silking, you will need to check both blacklight and pheromone trap catches for silk spray schedules since the spray schedules can quickly change. Trap catches are generally updated on Tuesday and Friday mornings

http://agdev.anr.udel.edu/trap/trap.php


You can also call the Crop Pest Hotline (in state: 1-800-345-7544; out of state: 302-831-8851). Be sure to check all labels for days to harvest and maximum amount allowed per acre.

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**PEST ALERT**

Kudzu Bug Discovered in Maryland
Alan W. Leslie
Ph.D. Candidate, Entomology
University of Maryland

Go to the LAMP/lab
Alan Leslie and Veronica Johnson at the University of Maryland, Entomology “Lamp Lab” have found the invasive insect known as the kudzu bug in Anne Arundel, Calvert, and Prince George’s Counties on kudzu vines.

To help keep everyone informed of their searches, the Maryland Kudzu Survey Website has been launched; This website will help disseminate information on the insect as it is collected.

Tracking The Kudzu Bug In Maryland at:
http://agnr.umd.edu/news/tracking-kudzu-bug-maryland#sthash.oJUcxSlw.dpuf
Soybeans
In general, corn earworm populations have not significantly increased since last week. You will need to watch double crop fields for the next couple of weeks since they will still be attractive to egg laying moths.

We continue to find economic levels of stinkbugs, especially in full season fields. The population levels as well as species vary from field to field depending on your location in the state. In Sussex County, the predominant species are native green and brown stink bugs, although brown marmorated (BMSB) are in the mix. From the Milford and Harrington areas in Kent County through New Castle County, the BMSB is more commonly found in the mix. BMSB populations are once again highest along woods edges. You will need to continue to scout for stinkbugs in fields that are in the pod development and pod fill stages. Economic damage is most likely to occur during these stages. You will need to sample for both adults and large nymphs when making a treatment decision. Available thresholds are based on beans that are in the pod development and fill stages. Economic damage continues to occur on R-5 stage soybeans. Thresholds are based on numbers of large nymphs and adults (native green and/or brown stink bugs), as those are the stages most capable of damaging pods. As a general guideline, current thresholds are set at 2.5 per 15 sweeps in narrow-row beans, or 3.5 per 15 sweeps in wide-row beans. In Virginia, the threshold has been increased to 5 stink bugs in 15 sweeps.

In general, defoliating caterpillar populations, especially green cloverworm dropped off significantly this past week in full season soybeans. In many cases you can find diseased larvae both in the sweep net and sometimes attached to the leaves. In other cases, larvae present last week are gone this week. However, you will still need to watch double crop soybeans — they cannot tolerate as much defoliation since they often do not reach the leaf area index needed for maximum yields. As a reminder, the pyrethroids have not provided effective control of beet armyworm or soybean loopers so a product labeled for these 2 species in soybeans will be needed if defoliation is present.

Favorable weather conditions have resulted in a continued increase in soybean aphid populations. The current economic threshold for aphids is an average of 250 aphids per plant through the R5 growth stage (3 mm long seed in the pod at one of the four uppermost nodes on the main stem) and the population is increasing. If you find 250 per plant you need to re-check in 3-4 days to see if the population is increasing. As indicated in information from Ohio were this insect can be more of a problem “this number is the action threshold, it is not the economic injury level (EIL) at which soybean aphid causes yield loss. Yield loss occurs when aphids reach 500-600 aphids per plant. Furthermore, these numbers do not apply to beans at R6 and later. The thresholds at these growth stages increase to over 1,000 aphids per plant.” As a reminder, this insect can be controlled by beneficial insects. You should also watch for natural enemies including lady beetles, parasitized aphids and fungal pathogens that can help to crash populations. Since many of our pests in soybeans migrate to us from the south at this time of year, the following two links provide information on what is occurring in Virginia and North Carolina.
http://www.sripmc.org/Virginia/
http://www.nccrops.com/

Corn Disease Updates
By Nathan Kleczewski,
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Foliar Disease and Weakened Stalks
This year many growers experienced higher than normal levels of foliar diseases on corn, particularly Gray leaf spot and Northern corn leaf blight. One item to keep in mind as we approach harvest is the effect that foliar diseases can have on stalk health. Carbohydrates are translocated from foliage to developing kernels during grain fill. When carbohydrates are in short supply the plant uses available carbohydrates in stalks to meet demands of grain fill (Figure 1). This weakens the stalks and can predispose them to stalk rotting pathogens. Foliar diseases of corn reduce photosynthesis and therefore carbohydrate production in corn and thus, can impact stalk strength. Now is a good time to start to check stalk strength and lodging potential. This can be done by pinching the lower stalk internodes or conducting a push test. In general, you should scout 10 stalks at 10 sites for every 10 acres of field. If you note that more than 10% of your corn exhibits the potential for lodging, consider an early harvest for that field.

Figure 1. Severely blighted corn has a difficult time meeting the carbohydrate requirements for grain fill. These needs are met by moving carbon stores from the stalks to the ear. This can weaken stalks and predispose them to stalk rots.
Corn Smut
Smut is common in field and sweet corn grown throughout the world, and can be economically important in some cases, resulting in yield losses approaching 20%. This disease is caused by a fungus (Ustilago maydis), and is easily identified by the large outgrowths found most often on corn ears (Figure 2) and tassels; however, any aboveground tissue can show symptoms. Galls initially appear white, and become black over time as the fungus produces spores (teliospores). If foliage is infected, pustules develop on the midrib. These pustules mature and release spore masses. Losses are greatest when the ear becomes infected or if the gall forms directly above the ear.

Figure 2. Smutted corn ear infected with Ustilago maydis
Corn can be infected at any time during the early stages of growth and is less susceptible to infection after pollination.

The fungus often enters the plant through wounds, but it can also penetrate tissues directly under the appropriate environmental conditions. Developing silks are a prime target for infection and entrance into ears, but once pollination occurs infection and gall formation is unlikely. Teliospores are the overwintering stage of the fungus and survive on crop debris or soil for several years. In the spring and summer these spores germinate and produce basidiospores, which are carried by wind or rain to corn plants. Teliospores can survive a trip through the gut of animals. Therefore, manure from animals fed infested corn material can serve as a source of primary inoculum. The most effective management of corn smut is through the use of resistant varieties. Rotation out of severely infested fields may help reduce inoculum levels in subsequent years, although long distance dispersal and survival of spores in soils may limit the effectiveness of this practice. Minimizing plant damage when possible (i.e. insects, mechanical damage) may help minimize smut. On a side note, our neighbors to the south consume immature smut galls from sweet corn. I’ve tried them before and they are quite good.

Rotational Planning and Cover Crops
By Gordon Johnson,
DE Extension Vegetable & Fruit Specialist;
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Vegetable growers should take time to revisit their rotations and plans for the next growing season. Decisions on fall rotational crops or cover crops will need to be made soon.

Start by listing your goals. Some goals for vegetable rotations include:

- **Returning organic matter to the soil.** Vegetable rotations are tillage intensive and organic matter is oxidized at a high rate. Cover crops help to maintain organic matter levels in the soil, a critical component of soil health and productivity. Brassicas and winter legumes provide the most biomass followed by ryegrasses and then rye.

- **Providing winter cover.** By having a crop (including roots) growing on a field in the winter you recycle plant nutrients (especially nitrogen), reduce leaching losses of nitrogen, reduce erosion by wind and water, and reduce surface compaction and the effects of heavy rainfall on bare soils. Cover crops also compete with winter annual weeds and can help reduce weed pressure in the spring.

- **Providing fall and early winter cover and then winter killing.** The use of winter killed cover crops are very useful when early spring (March or April) plantings of vegetable crops such as potatoes, peas, cole crops, early sweet corn, or early snap bean crops are being planned. By winter killing, cover crop residue is more manageable and spring tillage and planting can proceed more quickly.

- **Reducing certain diseases and other pests.** Cover crops help to maintain soil organic matter. Residue from cover crops can help increase the diversity of soil organisms and reduce soil borne disease pressure. Some cover crops may also help to suppress certain soil borne pests, such as nematodes, by releasing compounds that affect these pests upon decomposition. One system would be planting mustards in August or early September, tilling them into the soil to provide some biofumigation in October, and then planting a small grain crop for winter cover. Spring planted mustards can also work ahead of later spring planted vegetables.

- **Providing nitrogen for the following crop.** Leguminous cover crops, such as hairy vetch or crimson clover, can provide significant amounts of nitrogen, especially for late spring planted vegetables. Hairy vetch is particularly well suited for no-till systems and can provide full nitrogen requirements for crops such as pumpkins and partial requirements for crops such as sweet corn, tomatoes, or peppers.

- **Improving soil physical properties.** Cover crops help to maintain or improve soil physical properties and reduce compaction. Roots of cover crops and incorporated cover crop residue will help improve drainage, water holding capacity, aeration, and tilth. The use of large tap rooted cover crops such as forage radish or oilseed radish are particularly well adapted to these uses.
Setting up windbreaks in the fall for spring planted vegetables: Small grain crops will overwinter and grow tall enough in to provide wind protection for spring planted vegetables. Rye has been the preferred windbreak because tall types are still available and it elongates early in the spring. While barley is also early, tall varieties are not generally available. Wheat and triticale are intermediate and later.

Developing no-till, bio-strip-till, and bio-bed preparation systems. There is much opportunity to increase the amount of no-till and bio-tillage systems. The key will be selecting the right cover crop for the desired system. Rye, crimson clover, subclover, tillage radish, spring oats, and other cover crops have been used successfully for no-till vegetables. One innovative system that uses a combination of winter killed covers and standard covers is bio-strip-till. In this system, a high biomass cover crop such as rye or vetch is planted with strips of forage or oilseed radish in rows where spring planting will occur.

Another system uses rye strips with forage radish planted where the beds will be next year.

Cover crop planting windows vary with crop and timely planting is essential to achieve the desired results. There are many cover crop options for late summer or fall planting including:

Small Grains
Rye is often used as a winter cover as it is very cold hardy and deep rooted. It has the added advantage of being tall and strips can be left the following spring to provide windbreaks in crops such as watermelons. Rye makes very good surface mulch for roll-kill or plant through no-till systems for crops such as pumpkins. It also can be planted later (up to early November) and still provide adequate winter cover. Wheat, barley, and triticale are also planted as winter cover crops by vegetable producers.

Spring oats may also be used as a cover crop and can produce significant growth if planted in late August or early September. It has the advantage of winter killing in most years, thus making it easier to manage for early spring crops such as peas or cabbage. All the small grain cover crops will make more cover with some nitrogen application or the use of manure.

To get full advantage of small grain cover crops, use full seeding rates and plant early enough to get some fall tillering. Drilling is preferred to broadcast or aerial seeding.

Ryegrasses
Both perennial and annual ryegrasses also make good winter cover crops. They are quick growing in the fall and can be planted from late August through October. If allowed to grow in the spring, ryegrasses can add significant organic matter to the soil when turned under, but avoid letting them go to seed.

Winter Annual Legumes
Hairy vetch, crimson clover, field peas, subterranean clover, and other clovers are excellent cover crops and can provide significant nitrogen for vegetable crops that follow. Hairy vetch works very well in no-till vegetable systems where it is allowed to go up to flowering and then is killed by herbicides or with a roller-crimper. It is a common system for planting pumpkins in the region but also works well for late plantings of other vine crops, tomatoes and peppers. Hairy vetch, crimson clover and subterranean clover can provide from 80 to well over 100 pounds of nitrogen equivalent. Remember to inoculate the seeds of these crops with the proper Rhizobial inoculants for that particular legume. All of these legume species should be planted as early as possible - from the last week in August through the end of September to get adequate fall growth. These crops need to be established at least 4 weeks before a killing frost.

Brassica Species
There has been an increase in interest in the use of certain Brassica species as cover crops for vegetable rotations.

Rapeseed has been used as a winter cover and has shown some promise in reducing the levels of certain nematode in the soil. To take advantage of the biofumigation properties of rapeseed you plant the crop in late summer, allow the plant to develop until early next spring and then till it under before it goes to seed. It is the leaves that break down to release the fumigant-like chemical. Mow rapeseed using a flail mower and plow down the residue immediately. Never mow down more area than can be plowed under within two hours. Note: Mowing injures the plants and initiates a process releasing nematicidal chemicals into the soil. Failure to incorporate mowed plant material into the soil quickly, allows much of these available toxicants to escape by volatilization. Turnips and mustards can be used for fall cover but not all varieties and species will winter over into the spring. Several mustard species have biofumigation potential and a succession rotation of an August planting of biofumigant mustards that are tilled under in October followed by small grain can significantly reduce diseases for spring planted vegetables that follow.

More recent research in the region has been with forage radish. It produces a giant tap root that acts like a bio-drill, opening up channels in the soil and reducing compaction. When planted in late summer, it will produce a large amount of growth and will smother any winter annual weeds. It will then winter kill leaving a very mellow, weed-free seedbed. It is an ideal cover crop for systems with early spring planted vegetables such as peas. Oilseed radish is similar to forage radish but has a less significant root. It also winter kills. Brassicas must be planted early – mid-August through mid-September - for best effect.

Mixtures
Mixtures of rye with winter legume cover crops (such as hairy vetch) have been successful and offer the advantage, in no-till systems, of having a more rapidly decomposing material with the longer residual rye as a mulch. Other winter legume-small grain, winter legume-Brassics, small grain-Brassica, and small grain-winter legume-Brassica combinations have been successful.
Cereal Cover Crop Seeding Rates
What is Acceptable?

By Bob Kratochvil
Agronomic Crops Specialist, UME
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Maryland’s Cover Crop Program is viewed as the most successful water quality improvement initiative in the Chesapeake Bay region. Low seed germination was widespread in 2008 as a result of the severe Fusarium outbreak in the region. Low seed germination is again an issue for 2013 as a result of sporadic Fusarium outbreaks in some areas and some pre-harvest sprouting caused by the rainy harvest experienced this year. The Program’s recommended seeding rates for cereals are: rye (112 lb or 2 bu/acre); wheat (120 lb or 2 bu/acre) and barley (120 lb or 2 ½ bu/acre). The question that many are asking is: How do I attain an acceptable stand when the germination of my seed lot is below the standard of 80%? MDA is recommending that you contact your Extension office to get assistance regarding what an acceptable stand is. This article will hopefully help you adjust to low germination cereal cover crop seed.

University of Maryland Extension recommends that farmers planting cereals for commodity production use a seeds/ft² approach which allows compensation for seed lot size variation. The Maryland Cover Crop Program mandates volume rates (2 bu/a for rye and wheat; 2.5 bu/a for barley) when any of these species are planted as a cover crop. A two-year study that was funded by MGPUB compared cover crop performance of these three species when planted at volume and three seeds/ft² treatments. The results of that research are the basis for the following cover crop seeding rate recommendations for the cereal species. Examples of seeding rates for low germination seed lots for the three cereal species are provided in the Recommendations below.

Summary of Research Findings

• Two years of research indicated that the seeding rates for cereal species used as cover crops can be less than the volume rates described by the current Maryland Cover Crop Program regulations.
• This research indicated that seeding rates for the cover crop program should be defined as seeds/ft² because this method accounts for the variations in seed size that can occur among species and for different seed lots within a species.
• Regardless of species planted, when a seeds/ft² method is used, it is important to know both the seed size and germination of the seed lot to be used.
• Planting cereal cover crops at a seeds/ft² rate should result in cost-savings because a lesser amount of seed would be required. An exception would occur when seed size for the species used is exceptionally large.

• Amount of N uptake that will occur will vary by amount of residual N present at a location.
• Amount of N uptake will generally be greater for earlier planted cereal cover crops than for later planted cereal cover crops.

Recommendations

• The following seeding rate recommendations require that cereal cover crops be planted using a tillage practice that incorporates the seed into the soil, i.e. planting with a grain drill or broadcasting seed followed by incorporation with either a vertical tillage implement or a disk. The goal is to establish as uniform a stand as possible.
• Rye cover crop should be planted at 30 - 35 viable (adjusted for seed lot germination) seeds/ft². Example: a rye seed lot with 85% germination would require 35 - 41 seeds/ft² be planted. Low germination example: a rye seed lot with 75% germination would require 40–47 seeds/ft² be planted.
• Wheat cover crop should be planted at 20 - 25 viable seeds/ft². Example: a wheat seed lot with 90% germination would require 22-28 seeds/ft² be planted. Low germination example: a wheat seed lot with 70% germination would require 29–36 seeds/ft² be planted.
• Barley cover crop should be planted at 24 - 30 viable seeds/ft². Example: a barley seed lot with 90% germination would require 27 - 33 seeds/ft² be planted. Low germination example: a barley seed lot with 75% germination would require 32-40 seeds/ft² be planted.

"Growing Grapes for Wine Program"
Grant Announced

The Southern Maryland Agricultural Development Commission (SMADC) is offering grants to farms in Anne Arundel, Calvert, Charles, Prince George's and St. Mary's counties to aid in the purchase of wine grape vines. The grant program requires matching funds supplied by the farm owner for the purchase of grape vines of recommended grape varieties compatible with the region. The Grapes for Wine Program is offered together with the University of Maryland Extension which will provide ongoing training and production expertise.

To be eligible an applicant must own or be co-applicant with the owner of at least 5 acres of land currently in agricultural use. Existing grape growers and new growers may apply. Awards for the spring of 2014 will be contingent upon farms having suitable soils that have already been tested for nematodes. Awards will be made based on satisfactory test results and pending availability of funding. Grant applications are due to SMADC October 21, 2013.

To download the Grant Application and Guidelines visit the "News and Announcements" page at www.SMADC.com or contact SMADC staff at (301) 274-1922 Ex. 1. To view Grant Application and Guidelines CLICK HERE
Small Grains in Maryland
Latest Wheat and Barley Trials:
• 2013 Maryland Wheat and Barley Trials - Report

MDA Withdraws Phosphorus Management Tool Regulations Department to Meet with Stakeholders and Resubmit Regulations

ANNAPOLIS, MD (August 26, 2013) – The Maryland Department of Agriculture (MDA) today withdrew its request to the Joint Committee on Administrative, Executive, and Legislative Review (AELR) for emergency status on the proposed changes to the Maryland Phosphorus Management Tool (PMT). This action also cancels the AELR hearing on the regulation slated for next Wednesday, August 28. MDA had petitioned the committee on July 11 to request emergency status for the regulations so that they would be in place for the fall planting season.

“In order to ensure farmers have time to adjust to the use of this new tool and to respond to questions regarding certain elements of the regulation raised by the environmental community, the Department is withdrawing the emergency regulation. The Department has decided to meet with key stakeholders and will resubmit the proposal next month,” said Secretary Hance. “The O’Malley Administration wants to be sure that the regulations are rolled out with adequate time for everyone to understand how the tool will work and what it means to an agricultural operation.”

Secretary Hance added, “We are committed to implementing the new tool in a way that is responsive to the various stakeholder concerns while also ensuring our farmers have the technical and financial resources they need to comply with new regulations.”

The Phosphorus Management Tool replaced the Phosphorus Site Index to reflect more than 10 years of new research by University of Maryland scientists in collaboration with regional and national experts. This environmental risk assessment tool is used to identify areas where excess phosphorus is present in the soil and a high potential for phosphorus loss exists. It allows users to evaluate management options that can reduce the risk of phosphorus losses from agricultural fields to nearby waterways. Revising and updating the tool is an element of Maryland’s Watershed Implementation Plan (WIP), the federally mandated document that outlines specific steps the state will take to protect and restore the Chesapeake Bay. The PMT is included in the Maryland Nutrient Management Manual and incorporated by reference into COMAR 15.20.08.

USDA Climate Report Published, Public Invited to Comment

WASHINGTON, August 27, 2013 – The Climate Change Program Office of the U.S. Department of Agriculture’s (USDA) Office of the Chief Economist today released and requested public comments on the report Science-Based Methods for Entity-Scale Quantification of Greenhouse Gas Sources and Sinks from Agriculture and Forestry Practices. The report is the work of 38 scientists from across academia, USDA and the federal government, who are experts in greenhouse gas (GHG) estimation in the cropland, grazing land, livestock and forest management sectors. The report has undergone technical review by an additional 29 scientists.

The report outlines a set of consensus methods for quantifying GHG emissions and carbon storage at the local farm, ranch or forest scale. It is important that the methods exhibit scientific rigor, transparency, completeness, accuracy, and cost effectiveness, as well as consistency and comparability with other USDA GHG inventory efforts. The report can be downloaded at www.usda.gov/oce/climate_change/index.htm. A Federal Register Notice is included on the web site and provides detailed instructions for comment submission. Comments
must be received within 45 days of the August 28, 2013 publication of the Federal Register Notice. For more information on USDA's Climate Change activities, please visit: www.usda.gov/oce/climate_change/index.htm.

Report: Conservation Work Minimizes Sediment, Nutrient Runoff

A USDA assessment shows benefits of farmer-led conservation efforts to reducing runoff, Agriculture Secretary highlights the need for conservation programs provided by a Food, Farm and Jobs Bill

WASHINGTON, Aug. 27, 2013 – Agriculture Secretary Tom Vilsack announced a new U.S. Department of Agriculture (USDA) report that shows farmers have significantly reduced the loss of sediment and nutrients from farm fields through voluntary conservation work in the lower Mississippi River basin. Secretary Vilsack highlighted the value of conservation programs to these efforts, and called on Congress to pass a comprehensive Food, Farm and Jobs Bill that would enable USDA to continue supporting conservation work on farms and ranches.

The report, released by USDA’s Natural Resources Conservation Service (NRCS) this week, marks the completion of a watershed-wide assessment of conservation efforts in the Mississippi River watershed. Its findings demonstrate that conservation work, like controlling erosion and managing nutrients, has reduced the edge-of-field losses of sediment by 35 percent, nitrogen by 21 percent and phosphorous by 52 percent.

"Farmers and ranchers work hard to conserve the land and water, and today’s report shows the tremendous impact they’ve had for the Mississippi River and Gulf of Mexico," Vilsack said. "We need to keep up the momentum by providing scientific and technical expertise that supports conservation in agriculture. To continue these efforts, we need Congress to act on a comprehensive Food, Farm and Jobs Bill as soon as possible."

While the report shows the positive impacts of conservation, it also signals the need for additional conservation work. The most critical conservation concern is controlling runoff of surface water and better management of nutrients, meaning the appropriate rate, form, timing and method of application for nitrogen and phosphorous.

Model simulations show that an increase in cover crops will have a significant impact on reducing edge-of-field losses of sediment and nutrients and improve water quality.

The information in the report will help further develop NRCS’ work in the Mississippi River Basin Healthy Watersheds Initiative and Gulf of Mexico Initiative, aimed at helping producers improve water quality, restore wetlands and sustain agricultural profitability.

The report is part of USDA’s Conservation Effects Assessment Project, or CEAP, which uses advanced modeling techniques to assess the effects of conservation practices. The lower Mississippi report covers cropland in Louisiana, Arkansas, Kentucky, Mississippi, Missouri and Tennessee.

By comparing losses of sediment and nutrients from cultivated cropland to losses that would be expected if conservation practices weren't used, CEAP reports give science-based insight into the techniques that most benefit water quality, soil health and other resource concerns.

"These assessments are part of the scientific backbone that helps us work with farmers to get the right conservation techniques on the right acres," said NRCS Chief, Jason Weller. "A focus on the most effective conservation techniques means that we're helping to deliver the best results for farmers and our natural resources."

Over the past few years, similar assessments were completed in the upper Mississippi River, Tennessee-Ohio, Missouri and Arkansas-Red-White basins. As a whole, assessments in this project have shown:

• Conservation on cropland prevents an estimated 243 million tons of sediment, 2.1 billion pounds of nitrogen and 375 million pounds of phosphorus from leaving fields each year. These figures translate to a 55 percent, 34 percent and 46 percent reduction in sediment, nitrogen and phosphorous edge-of-field losses, respectively, compared to what would have been lost if no conservation practices were in place.

• Similarly, conservation has resulted in an estimated 17 percent reduction in nitrogen and 22 percent reduction in phosphorus entering the Gulf of Mexico annually. An additional reduction of 15 percent of nitrogen and 12 percent of phosphorus can be achieved by implementing comprehensive conservation plans on all cropland in the basin in areas that have not adequately addressed nutrient loss. The scientific-based modeling also pointed out that higher rainfall and more intense storms lead to higher edge-of-field losses of sediment and nutrients in the lower Mississippi River basin than the other four basins in the Mississippi River watershed. Because of this, more soil erosion control and better management of nutrients are important in the basin.

Download a fact sheet, a summary or the full report. Learn more about USDA’s Conservation Effects Assessment Project.

EPA, OSHA and ATF Provide Information and Lessons Learned About the Safe Storage, Handling and Management of Ammonium Nitrate

WASHINGTON – Today the U.S. Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA) and the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) issued a chemical advisory that provides information on the hazards of ammonium nitrate (AN) storage, handling and management. This action supports the goals of President Obama’s August 2013 executive order on “Improving Chemical Facility Safety and Security.” The advisory provides lessons learned for facility owners and operators, emergency planners and first responders from
recent incidents, including the explosion in West, Texas, involving AN in order to prevent similar incidents.

“Understanding and minimizing the hazards posed by solid ammonium nitrate used in fertilizers is a key component of this advisory,” said Mathy Stanislaus, assistant administrator for EPA’s Office of Solid Waste and Emergency Response. “In addition, the community emergency planning and response information in this document provides a valuable tool that will help protect workers, first responders and communities throughout the country.”

“Ammonium nitrate can be very dangerous, and it’s imperative that employers, workers and first responders all understand the hazards,” said Dr. David Michaels, Assistant Secretary of Labor for Occupational Safety and Health. “With this understanding, together they can control these hazards and save lives and limbs.”

“ATF National Response Team works closely with other federal, state and local emergency personnel responding to incidents, to include ammonium nitrate explosions,” says Arthur Herbert, ATF Assistant Director for the Office of Enforcement Programs and Services. “ATF maintains an open dialogue with first responders of the possible hazards of ammonium nitrate and is committed to working towards development of best practices in collaboration with our federal partners, industry members and their association representatives.”

The advisory takes steps now to reduce the risks associated with AN to workers, first responders and communities. It is part of an ongoing coordinated federal government effort to improve chemical safety with regards to AN and includes information on ensuring proper building design, storage containers and fire protection at their locations; learning from other accidents; and knowing and understanding the hazards that exist when developing their emergency response plans.

Earlier this month, President Obama directed the federal government to improve operational coordination with state and local partners; enhance federal agency coordination and information sharing; modernize policies, regulations and standards; and work with stakeholders to identify best practices to improve chemical safety.

President Obama established the Chemical Facility Safety and Security Working Group. To this end, this advisory was developed by working group members and was facilitated by the working group process.

View the advisory and more information on EPA’s risk management program:
http://www.epa.gov/emergencies/content/rmp/index.htm

View President Obama’s Executive Order:

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**Update of Human Health Benchmarks for Pesticides in Water**

The EPA has updated its list of human health benchmarks for pesticides. The EPA develops these benchmarks as screening levels for use by states and water systems in determining whether the detection of a pesticide in drinking water or a drinking water source may indicate a potential health risk. This year, the EPA added 11 new benchmarks to the list, revised 10 of the benchmarks published in 2012 to reflect new scientific information and added cancer effects benchmarks for 40 of the pesticides. To view the revised list of human health benchmarks for pesticides, visit www.epa.gov/pesticides/hhbp

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**About EPA’s Pesticides Program**

Overview of EPA's program evaluating potential new pesticides and uses, providing for special local needs and emergency situations, reviewing safety of older pesticides, registering pesticide producing establishments, enforcing pesticide requirements, pesticide issues in the works, overview of risk assessment in the pesticide program

**Types of Pesticides**

Pesticides are often grouped according to the type of pest they control or by chemical or source.

type of pest, chemically-related

**Frequently Asked Questions**

Answers to questions from the public.

**Fact Sheets**

Search general interest and technical fact sheets, health and safety, regulatory actions, specific chemicals

**Information Sources**

Additional information of general interest, General information, hotlines, information centers, databases

**Pesticide Program Reports**

Reports produced by the Office of Pesticide Programs Annual Reports, Performance Management & Accountability, Pesticide Industry Sales and Usage, Progress Reports, Restricted Use Products Reports

**Pesticide News Stories**

Pesticide related articles appearing in news media

**Publications | Glossary | A-Z Index |**
Commercial 2013
Vegetable Production
Recommendations
Maryland EB 236

Branching Out, Maryland’s Forest Stewardship Education newsletter, is published four times per year by University of Maryland Extension. Branching Out provides educational information, current news and events and is intended to reach anyone interested in forest stewardship including landowners and natural resource professionals. We encourage you to share this free newsletter with others and invite them to subscribe and review past newsletters by visiting the Branching Out Newsletter Page at:
http://www.naturalresources.umd.edu/Newsletter.html

Farmer School
On-Line Farming Education Series
“Tomorrow’s Farmers” Web Modules”

https://extension.umd.edu/anne-arundel-county/agriculture/tomorrows-farmer-web-modules

Module 1: Introduction to Farming & Course Orientation: “Tomorrow’s Farmers”
Module 2: The Science and Stewardship of Soils
Module 3: Fundamentals of Farm Machinery
Module 4: Plants that Farmers Grow
Module 5: Integrated Pest Management

County Website Features:

Anne Arundel County Extension website:
http://extension.umd.edu/anne-arundel-county

Ag Newsletter Production Pointers
The current and past agricultural newsletter additions are available for viewing or copy at:
https://extension.umd.edu/anne-arundel-county/agriculture/anne-arundel-county-agnr-newsletter#

Ag Bulletins
An agricultural bulletin page is also available for viewing or copy under our hot topics section at:
https://extension.umd.edu/anne-arundel-county/agriculture/agriculture-bulletins

Ag Web Modules
New website features in Anne Arundel County - Agricultural Program Teaching Modules:
http://extension.umd.edu/anne-arundel-county/agriculture/farm-production-web-modules

4-H News
Amanda Wahle, 4-H FEA
University of Maryland

Are you between 8 and 18 or know someone who is? If so have you considered joining 4-H?

The Anne Arundel County 4-H program is growing and is always looking for new members and volunteers. The program has community clubs located throughout Anne Arundel County but is also looking for volunteers and members to lead new groups. There are a variety of projects members can participate in including animal science, environmental sciences and human sciences. We are also looking for adults to do seminars or presentations to help 4-Hers learn how they can further their projects.

To receive more information, please contact Amanda Wahle in the Anne Arundel Extension Office at 410-222-3900 or at: awahle@umd.edu

Gardening questions? Pest Problems?
The Home and Garden Information Center can help!
Consultants are available by phone Monday-Friday, 8 AM to 1 PM.
Call 1-800-342-2507 or 410-531-1757 or visit the HGIC website at www.extension.umd.edu/hgic
Thanks for Partnering

Thanks for partnering with the University of Maryland Extension, and supporting our programs. I also hope you enjoy this newsletter. If you are no longer interested in receiving this newsletter, please call or write the office for the removal of your name from the mailer.

R. David Myers, Principal Agent
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Anne Arundel County Extension
https://extension.umd.edu/sites/default/files/_docs/AACoflyerUME%20Update.pdf

4-H Youth Development
For more information, contact Amanda Wahle at awahle@umd.edu or call 410-222-3900

Family & Consumer Sciences
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Agriculture & Natural Resources
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Master Gardener Program
For more information, contact Mike Ensor mensor@umd.edu call 410-222-3906

Nutrient Management
For more information, contact Francis Warring at fwarring@umd.edu or call 410-222-3906

Sea Grant
For more information, contact Matt Parker at mparke11@umd.edu or call 410-222-3906

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