RUTGERS
New Jersey Agricultural Experiment Station

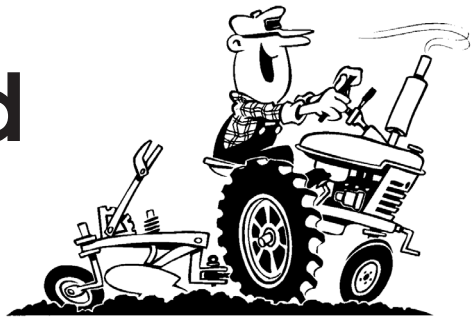
Cooperative Extension of Cumberland County
Extension Education Center
291 Morton Avenue
Millville, NJ 08332-9791

http://cumberland.njaes.rutgers.edu

Phone: (856) 451-2800 x1
Fax: (856) 451-4206

Cultivating Cumberland

August - 2022 Vol. 27, Issue 8



Attachments:

- Pesticide Applicator Seminar
- NJDOH Heat Advisory
- NJ Pest Applicator Resources

Quick Tips to Beat the Heat

Kate Brown, July 20, 2022, Plant and Pest Advisory

Daily high temperatures over the next 10 days will soar above 90 degrees each day, with the real feel exceeding 100 degrees at times. It's important to take precautions to keep you and your workers safe from heat stress and other heat-related illnesses. Check out these 5 quick tips you can implement today to safeguard everyone on your farm during this extreme heat.

1. **Stay hydrated.** The CDC recommends drinking at least 1 cup of water every 15-20 minutes during moderate activity.

2. **Dress appropriately.** Choose light-colored, loose-fitting clothing made of cotton or linen. Protect yourself from the sun with a wide-brimmed hat and sunglasses.

3. **Acclimatize employees to working in the heat.** Gradual exposure to work in a hot environment is critical for both new and experienced employees.

4. **Adjust workload.** Plan strenuous tasks for cooler parts of the day, increase the number of workers per task to lighten workload, and shorten work periods to allow for breaks in the shade (at least) hourly.

5. **Train employees to recognize signs of heat stress.** Heat-related illnesses can range from heat rash to heat stroke.

Preparing for Anthracnose and Alternaria Leaf Blights in Cucurbit Crops

Andy Wyenandt , June 29, 2022, Plant and Pest Advisory

Anthracnose and Alternaria leaf blight can become problematic in cucurbit crops during long periods of wet, humid weather. Both can cause significant losses if not controlled properly. With the production season in full swing, now is a good time to review a few of these important diseases.
Symptoms of anthracnose on infected cucumber leaf.

Anthracnose, caused by *Collectotrichum orbiculare*, and Alternaria leaf blight (*Alternaria cucumerina*) produce distinct spots on infected leaves, and in most cases, symptoms begin on the older leaves. With Alternaria, diagnostic concentric black rings will be develop within the spots on infected leaves, often there is a chlorotic (yellow) halo around margins. With Anthracnose, spots always develop on veins on the underside of infected leaves. Often, black setae (hair-like projections) will develop on the veins of infected tissue. These symptoms make for easily diagnosing which disease might be present.
Both pathogens can overwinter on infected plant tissue in the soil for 1 to 2 years, thus extended crop rotations are important. Conidia (spores) develop from dormant mycelium in the soil and are splashed into the canopy causing primary infections during prolonged periods of humid, wet weather causing extended leaf wetness. Secondary infections and spread of both diseases can occur during the production season under favorable conditions for disease development.

Deep plowing debris or the removing of plant debris after harvesting, avoiding overhead irrigation during the production season, and most importantly, choosing cucurbit varieties with resistance are important cultural practices all conventional and organic growers should consider.

Anthracnose and Alternaria are easily controlled with weekly protectant fungicides such as chlorothalonil and mancozeb as long as they are applied prior to the arrival of the pathogen and on a regular basis during favorable disease development. Organic growers can apply copper and other labeled products to help suppress development of these diseases. Complete foliar coverage is critically important for the control of these diseases.

For more information on the control of anthracnose and Alternaria leaf blight in cucurbit crops please seethe 2022/2023 Mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Additional Resources:
University of MN Extension: https://extension.umn.edu/diseases/alternaria-leaf-blight
University of Florida: https://plantpath.ifas.ufl.edu/u-scout/cucurbit/alternaria-leaf-spot.html
– Images ofAlternaria
University of Florida: https://www.growingproduce.com/vegetables/aim-to-keep-anthracnose-out-of-your-cucurbit-crops/
– Additional information on anthracnose
University of MN: https://extension.umn.edu/diseases/anthracnose-cucurbits
– Additional information onanthracnose of cucurbits

Controlling Basil Downy Mildew in the Field in 2022

Andy Wyenandt, Kathryn Homa, and Jim Simon, July 3, 2022, Plant and Pest Advisory

For over a decade, basil downy mildew (BDM) has caused significant losses in basil grown in organic and conventional field and greenhouse production across the United States. At the time of its introduction, there were very few fungicides labeled for its control making it nearly impossible to grow a successful crop in many areas of the country. The pathogen, *Peronospora belbahrii*, is an obligate parasite, meaning it needs a living host in order to survive. Thus, in more northern regions of the country that experience a freeze (i.e., winter), the pathogen will die when the host freezes during the fall. Because of this, the pathogen must be re-introduced the following spring or summer from southern regions of the country. This is similar to cucurbit downy mildew, where the pathogen can survive on the host that is growing in the field during the winter months (e.g., southern Florida or Mexico). The exact timing of when basil downy mildew may show up in your geographic region depends on a number of factors. The more southern you are located in the continental US, the more likely the pathogen will show up earlier in the spring or summer. In New Jersey the pathogen has been reported as early as 12 June and as late as 2 August. The first step in mitigating losses to basil downy mildew is in your selection of the best varieties. In recent years, there have been a number of new commercial sweet basil varieties released with a high level of resistance to basil downy mildew. Sweet basil varieties without BDM resistance should always be grown prior to the expected arrival of the pathogen in your region. There is a BDM monitoring website, led by Cornell University, which tracks the movement of the pathogen across the country each year. Growers can use the website to see where BDM has been reported across the country. Once BDM has been detected in your area you can expect it to remain active until the end of the production season. BDM resistant sweet basil varieties should always be grown after BDM has been detected in your region to help mitigate losses due to the disease. If you are located in the southern US, the easiest approach would be to use BDM resistant sweet basils the entire production season. All basil growers must remember that any of the new BDM resistant sweet basils are not “immune” to the disease. If disease pressure becomes extremely high or environmental conditions become highly conducive for disease development over a long period of time BDM resistance will break down for that season. Thus, it is extremely important to **still initiate** a fungicide program when using any DMR resistant sweet basil, especially if disease pressure is expected to be high.

For several years, the IR-4 Project has been working diligently with stakeholders and registrants to facilitate the registrations for a number of fungicide products (conventional, biopesticide, and organic) to control basil downy mildew. These efficacy studies have been done by Extension personnel at many Universities across the country. The following is a comprehensive list of conventional, organic, and biopesticides currently labeled for the control of BDM in the US.

Conventional fungicides currently labeled for basil downy mildew control:

- Ranman 400 SC, FMC Agricultural Products
    - cyazofamid, FRAC Group 21
    - Can be used in a greenhouse, 0-day PHI
- Revus, Syngenta Crop Protection,
    - mandipropamid, FRAC Group 40
    - Micora labeled for use in the greenhouse; 1-day PHI

- Ridomil Gold, Syngenta Crop Protection
    - mefenoxam, FRAC Group 4
    - Field use only; 21-day PHI
- Orondis Ultra, Syngenta Crop Protection (not yet approved by EPA)
    - oxathiapiprolin (FRAC Group 49) + mandipropamid (FRAC Group 40)
    - Field use only (foliar); 0-day PHI
- Segovis, Syngenta Crop Protection oxathiapiprolin, FRAC Group 49
    - Greenhouse use only; transplants for retail sale
- Presidio, Valent USA
    - fluopicolide, FRAC Group 43
    - Field use only; 1-day PHI;
    - Adorn labeled for use in the greenhouse
- Reason 500SC, Gowan Company and Bayer CropScience LP
    - fenamidone, FRAC Group 11
    - Field and greenhouse use; 2-day PHI

Organic Materials Review Institute (OMRI Listed) federally registered fungicide products for basil downy mildew control include:

- Actinovate AG (Streptomyces lydicus, Novozymes BioAg Inc.)
- Double Nickel 55 and LC (Bacillus amyloliquefaciens strain D747 Certis U.S.A.)
- Aviv (Bacillus subtilis strain IAB/BS03, STK Bio-Ag Technologies)
- Regalia (extract of Reynoutria sachalinensis, Marrone Bio Innovations)
- Trilogy (neem oil, Certis U.S.A.)
- Milstop, Carb-O-Nator (potassium bicarbonate, BioWorks Inc., Certis USA LLC)
- Oxidate (hydrogen dioxide, BioSafe Systems LLC)
- Oxidate 2.0 (hydrogen dioxide; peroxyacetic acid, BioSafe Systems LLC).
- Cueva Fungicide Concentrate (copper octanoate, Certis USA, LLC)
- Romeo (cell walls of Saccharomyces cerevisiae strain LAS117, Lesaffre Yeast Corporation)

Biopesticide products federally registered for basil downy mildew control that are not OMRI listed include:

- mono- and di-potassium salts of phosphorous acid (K-Phite, Plant Food Systems)
- phosphorous acid, mono- and dipotassium salts (Confine Extra, Winfield Solutions LLC)
- phosphorous acid, mono- and dibasic sodium, potassium, and ammonium salts (Alude and Phostrol, Nufarm Agricultural Products)
- potassium phosphite (Fosphite, JH Biotech, Inc.; Fungi-Phite, Plant Protectants, LLC; Prophyt, Helena Chemical Company; Rampart, Loveland Products, Inc.)
- potassium bicarbonate (Armicarb 100, Helena Chemical Company)
- a combination of potassium phosphate and potassium phosphite (Phorcephite, Loveland Products, Inc.)
- sodium tetraborohydrate decahydrate (Prev-Am Ultra ORO Agri, Inc.)
- hydrogen peroxide, peroxyacetic acid (Rendition, Certis USA LLC)

- hydrogen peroxide; phosphorous acid; mono- and dipotassium salts (Oxiphos, BioSafe Systems LLC)
- citric acid (Procidic, Greenspire Global Inc.)
- hydrogen peroxide; peroxyacetic acid (Sanidate 12.0, BioSafe Systems, LLC)
- Sodium tetraborohydrate decahydrate (Prev-Am Ultra, ORO Agri, Inc.)
- Laminarin (Vacciplant, UPL NA Inc.)

Some important points to consider:

1. Some of the conventional fungicides listed above are sold under different product names, depending on whether the product can be used in the field or greenhouse or for greenhouse transplant use. Other products have both a field and greenhouse use on the same product label.
2. Although a product is listed as a biopesticide, it does not mean it has an OMRI-approved label. All growers should follow labels accordingly. Remember, the label is the law.

Proper control of BDM depends on a number of factors including the environment, disease pressure, and the timing of fungicide applications. Prolonged periods of wet weather and high relative humidity during the production season will make BDM control more difficult regardless of the products used to control it. The amount of disease pressure present in your field will also have an impact on your ability to control BDM. This is especially important in organic production systems where organic products often have better chance of working if disease pressure remains low. This is why growing a basil downy mildew resistant sweet basil is so important; as many organic products as reported by growers have not shown to be as effective as needed.

Research has shown that fungicide applications (e.g., conventional, bio-, or organic) initiated after the start of disease development most often leads to poor control and crop loss. Therefore, it is important to anticipate the arrival of BDM and initiate a fungicide program prior to the onset of disease development. This is also why monitoring the progress of the pathogen in the US is so important. In some areas, the disease might arrive on infected basil transplants from southern states. If this happens, the basil downy mildew will be in present long before the anticipated arrival of the pathogen due to weather patterns.

How products work against basil downy mildew

Conventional fungicides often work by inhibiting spore germination or spore production. Thus, the importance of having them applied prior to the arrival of the pathogen. Some of these products, such as mefenoxam or oxathiapiprolin, move within the plant, giving them an advantage when applied as drip applications. Biopesticides, such as the phosphites, are truly systemic and move up and down within the plants vascular system; however, research has shown that phosphites are more effective as foliar applications than when applied as drip applications. Some biopesticides, such as Oxidate and hydrogen peroxide, act as disinfestants killing spores they come into direct contact with. Because BDM sporulates on the underside of the leaf, these products (and most other fungicides) must reach the undersides of leaves during application in order to be effective. The same holds true for copper products. Copper is a protectant fungicide inhibiting spore germination. Therefore, it must reach the undersides of leaves. Organic products, such as those containing Bacillus and Streptomyces, act as an antigonist against

BDM on the leaf surface and must be remain present in high enough populations on the leaf surface to provide control. This is often difficult to do because it requires multiple applications per week with short retreatment intervals. Often, these products are ineffective due to unfavorable environmental conditions. For growers trying to reduce conventional fungicide use, these products as well as disinfectant products will also kill off any biological control agents, so beware.

For information on Rutgers DMR sweet basils, where to purchase seed, as well as control strategies, and ongoing research efforts please follow the Rutgers basil downy mildew breeding program on Instagram at #Rutgersbasil.

Additional Resources:

Tracking basil downy mildew in the US https://basil.meas.ncsu.edu/

Managing basil downy mildew https://basil.meas.ncsu.edu/node/9

Fungicides for the control of BDM
http://vegetablemdonline.ppath.cornell.edu/NewsArticles/BasilDowny.html

Controlling basil downy mildew in the greenhouse
https://plant-pest-advisory.rutgers.edu/controlling-basil-downy-mildew-in-the-greenhouse/

Diagnosing Southern blight and White Mold in Tomato and Pepper

Andy Wyenandt, July 6, 2022, Plant and Pest Advisory

There have been a few reports of Southern blight (*Sclerotinia rolfsii*) and White mold (*Sclerotinia sclerotiorum*) on tomato and pepper in New Jersey. Southern blight is much more common in vegetable areas south of the state where summer temperatures remain hotter (above 90°F) for longer periods of time.Like white mold, it can survive in the soil for many years. Symptoms of Southern blight include infection at the base of the stem at the soil line. The resulting infection will girdle the plant causing wilt and death. The fungus will produce white, cottony mycelium and very small, spherical sclerotia which are often have a tannish, brown color.

White mold is more common than Southern blight in New Jersey, and like Southern blight, once introduced into a field or high tunnel it can very difficult to control. The pathogen produces large black sclerotia on the surface and inside infected stems. If sclerotia of either pathogen make their way back into the soil, both can survive for years causing significant problems.

All infected plants need to be removed immediately and disposed of properly to help reduce the chances of sclerotia returning to the soil.

For more information on chemical control please see the 2022/2023 mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Controlling Fungal Leaf Blights of Carrot

Andy Wyenandt, July 7, 2022, Plant and Pest Advisory

Powdery mildew, Alternaria and Cercospora are three important fungal foliar pathogens that can cause early defoliation in carrots, thus reducing yields and making harvest difficult. Each pathogen produces distinct symptoms.

Powdery mildew causes characteristic white, powdery lesions on foliage. Symptoms of Alternaria include irregular, dark brown to black spots which typically show up on older leaves first. Cercospora leaf spots are round, grayish-brown and are more prevalent on younger foliage. Both leaf blights typically start at the margins of leaflets and as more spots develop leaflets begin to wither and die. Symptoms similar to leaf infections can develop on stems and petioles.

Control of both diseases begins with regular scouting and preventative fungicide applications on susceptible varieties. For processing crops or situations when the crop is not being marketed with its foliage, a 25% disease incidence threshold may be used to time the first fungicide application. Scout carrot fields by variety. While walking across the field in a ‘V’ or ‘W’ shaped transect, evaluate disease incidence on five leaves from five adjacent plants in a minimum of ten locations. A leaf is infected if one or more fungal leaf blight lesions are observed. When twelve of the fifty leaves scouted show symptoms (~25%) then apply the first fungicide spray. Subsequent sprays can be based on the label recommended spray interval or on increased disease severity. Under severe defoliation, add urea (10.0 lbs/A) to encourage new leaf growth. Alternate Fontelis1.67SC (penthiopyrad, 7) at 16.0 to 30. fl. oz/A, azoxystrobin 2.08F (11) at 9.0 to 15.5 fl. oz/A, or Cabrio 20EG (pyraclostrobin, 11) at 8.0 to 12.0 oz/A, or Pristine 38WG (pyraclostrobin + boscalid, 11+7) at 8.0 to 10.5 oz/A with chlorothalonil (M5) at 1.5 to 2 pt/A. For Alternaria only tank mix one of the following with 1.5 pt/A chlorothalonil (M5): Endura 70W (boscalid, 7) at 4.5 oz/A, Inspire Super 2.82EW (difenoconazole + cyprodinil) at 16.0 to 20.0 fl. oz/A, Merivon 2.09SC (fluxapyroxad + pyraclostrobin) at 4.0 to 5.5 fl. oz/A, or Switch 62.5WG (cyprodinil + fludioxonil, 9 +12) at 11.0 to 14.0 oz/A. Do not make more than one sequential application of Quadris, Pristine or Cabrio (FRAC code 11). For more information on tolerant varieties and control please see the 2022/2023 Mid-Atlantic Commercial Vegetable Production Recommendations.

For organic growers, there are several varieties such as Bolero, Calgary, Carson that exhibit tolerance to leaf blight and should be grown if available. If foliar blights have been a problem in the past, avoid seeding carrots in those areas of the farm. Seeding rates that allows for more air flow and space between plants will help foliage dry out much quicker may help reduce potential problems. Keep rows free of weeds. Organic copper applications following the above scouting guidelines may also help suppress foliar blight development.

Phytophthora and Pythium Control During Wet Weather

Andy Wyenandt, July 8, 2022, Plant and Pest Advisory

Most of New Jersey has been plagued by heavy regular rains at times this summer and pop-up thunderstorms making conditions ideal for pathogens such as Phytophthora and Pythium. Unfortunately, Pythium and Phytophthora blight can be found on most farms in the southern part of the state. Poor crop rotations with susceptible hosts only make matters worse. The Phytophthora pathogen has an increasing host range that now includes snap and lima beans; and all crops, other than a few resistant bell pepper cultivars, lack any resistance to the pathogen.

Control of Phytophthora blight and Pythium are extremely difficult (even with the use of fungicides) in the wet weather conditions. In the past few years a number of new fungicides, with new active ingredients, have become commercially-available for use on multiple crops. Mefenoxam or metalaxyl, both once widely-used to effectively control Phytophthora blight has been hit by resistance issues around much of Southern New Jersey in the past decade. Growers with a known history of mefenoxam-insensitivity on their farm should use Presidio, Previcur Flex, or Ranman plus a Phosphite fungicide in rotation in their drip application programs. Importantly, if mefenoxam has not been used in particular fields on any crop for a number of years (more than 5+) the fungus may revert back to being mefenoxam-sensitive and control with these products may return. Mefenoxam, metalaxyl, Previcur Flex, and the phosphites are the most systemic of the group and should readily be taken up the by plant via application through the drip. Presidio has locally systemic and has translaminar activity and should offer some protection of the root system via drip. Ranman has protectant activity and thus will offer some root protection where it comes into contact with. Orondis Gold (oxathiapiprolin + mefenoxam, 49 +4) is the newest fungicide available with a new active ingredient in a new FRAC group. Additionally, in past research trials, mefenoxam, Orondis Gold, Presidio, Previcur Flex, Ranman, Revus and the phosphites in rotation and/or tank mixes have offered very good control of the fruit rot phase of phytophthora blight.

Recommendations

- Mefenoxam–1.0 pt Ridomil Gold 4SL/A or 1.0 qt Ultra Flourish 2E/A or metalaxyl (MetaStar) – 4.0-8.0 pt 2E/A at transplanting via drip and 30 days later.
- Orondis Gold (oxathiapiprolin + mefenoxam, 49 +4) at 4.8 to 9.6 fl oz/A 1.67S at transplanting and 30 days after. If applied as drip application it can not be applied as a foliar.
- Presidio (fluopicolide, 43) at 3.0-4.0 fl. oz 4SC/A at transplanting via drip and in rotation.
- Ranman (cyazofamid, 21) at 2.75 fl oz 400SC at transplanting via drip and in rotation. (Ranman can be added to transplant water, see label for specific crop uses)
- Previcur Flex (propamocarb HCL, 28) at 1.2 pt/A 6F at transplanting via drip or directed spray at base of plant. (Previcur Flex can be added to transplant water, see label for specific crop uses). Use in rotation.
- Phosphite materials (FRAC code 33) such as Rampart, ProPhyt, or K-Khite may also be tank mixed with one of the above to help suppress Phytophthora blight.
- If mefenoxam-insensitivity is present, only use Presidio, Previcur Flex, Ranman, Revus, and/or phosphite fungicides.

For more information on these fungicides and specific crop use please see the 2022/2023 Mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Recommendations for Organic Growers
Applications of Double Nickel (Bacillus amyloliquefaciens) or Regalia (Extract of Reynoutria sachalinensis) as drenches or via the drip system prior to the onset of disease may help suppress phytophthora and pythium development. Other biopesticides, such as those containing Trichoderma spp. or Streptomyces spp. can also be used to help suppress these pathogens.

Losses Become High?
If phytophthora or pythium losses become high because of the heavy rains, pre-emptive cultural practices need be taken immediately. Rogueing out, discing under, or hitting areas with gramoxone to burn infected plants down will help slow down and reduce the spread of potential inoculum to healthier areas of the block or farm. If beds are chronically wet, plastic can be cut or completely removed to help soils dry out.

Avoiding Plectosporium Blight in Cucurbit Fields in 2022

Andy Wyenandt, July 5th 2022, Plant and Pest Advisory

Plectosporium blight, also known as Microdochium blight or White speck, caused significant problems in some pumpkin fields last summer in New Jersey. The soil-borne fungal pathogen, although somewhat uncommon, can unexpectedly show up in some years and cause significant losses if left uncontrolled. The fungus survives in the soil on decaying plant debris where it can remain saphrophytic by surviving off organic matter. Infection is characterized by the production of numerous light tan to “bleached” spindle shaped lesions that develop on vines and the undersides of infected leaves. Heavily infected vines and leaves can die leading to premature defoliation and subsequent sunscald on fruit. In cases of heavy disease pressure, spores that are produced on the bottom sides of leaves fall and infect the topsides of fruit laying beneath the canopy. Infection of stems leads to premature browning and drying reduce their longevity. Fruit infection, in most cases, remain mostly cosmetic in nature reducing fruit quality and may predispose fruit to other opportunistic fruit rots. Plectosporium blight often shows up during periods of prolonged wet weather where the soil remains wet for extended periods. “Hot spots” typically appear in fields before the pathogen is further spread by driving rains and wind.

From a production standpoint, stay away from fields with known history of the disease for as long as possible; provide adequate spacing between plants in and between rows (i.e., avoid the overcrowding of plants); avoid over (preplant) fertilization that can lead to thick, dense canopies; avoid overhead irrigation (if possible); avoid planting in area of a field that remains heavily shaded where soils tend to dry too slow.

Controlling Plectosporium blight begins with regular scouting, recognizing symptoms, and identifying “hotspots” in the field. Protectant fungicides, such as chlorothalonil, as well as those used in weekly maintenance spray programs for cucurbit powdery mildew control will help control Plectosporium blight as long as they applied on a weekly schedule with a high volume of water with thorough coverage. To help improve control on the undersides of leaves, a FRAC code 11 fungicide such as Quadris Top or Pristine,can be added to the tank mix. Remember, FRAC code 11 fungicides have translaminar activity and will move from the top surface of the leaf to the bottom. Growers who grow powdery mildew resistant varieties need to remember to scout their fields regularly even if cucurbit powdery mildew has not been detected on the farm or if regular maintenance sprays haven’t begun.

Update on Status of Dacthal Herbicide

Thierry Besancon, July 8, 2022, Plant and Pest Advisory

DCPA (dimethyl tetrachloroterephthalate) is a selective preemergence herbicide used for control of annual grasses (foxtail, crabgrass, barnyardgrass, goosegrass, fall panicum) and some broadleaved weeds (purslane, common lambsquarters, pigweeds) in vegetable crops and ornamental turf. Commercial formulations of DCPA include Dacthal® Flowable herbicide. Dacthal® Flowable is labelled for use on the following vegetable and fruiting crop groups: cole leafy vegetables, seeded melons (cantaloupe, honeydew, watermelon), collards and mustard greens, horseradish and radish, onions, sweet potatoes, tomatoes and eggplants, strawberries.

What is happening with DCPA, the technical ingredient in Dacthal® Flowable herbicide from AMVAC?

On April 27th the U.S. Environmental Protection Agency (EPA) published a notice of intent to suspend (NOITS) DCPA technical registration in the U.S. The basis for this action was that AMVAC had not provided multiple studies required during the registration review.

How did AMVAC and key grower stakeholders respond to this action by the EPA?

According to FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act), AMVAC and impacted stakeholders had the opportunity to appeal the NOITS within 30 days, which they did on May 27th. The purpose of the appeal was to obtain a hearing that would allow evidence from each side to be presented in front of an Administrative Law Judge (ALJ) appointed by EPA.

Did AMVAC and the grower stakeholders have the opportunity for a hearing?

No. The assigned EPA administrative law judge (ALJ) ruled on Friday July 1st that the NOITS was upheld without requiring a hearing.

How will that impact end use formulated products like Dacthal Flowable herbicide?

This decision does not impact formulated products (i.e., Dacthal Flowable). AMVAC's customers can continue to sell, distribute, and apply Dacthal Flowable.

What happens now in this process concerning DCPA?

The July 1st decision granted EPA the ability to suspend DCPA technical without requiring a hearing to examine AMVAC and EPA testimony. AMVAC will appeal this decision to the Environmental Appeals Board.

Is the registration of the end-use product Dacthal Flowable herbicide impacted by the NOITS?

If you have used or plan to use end-use products containing DCPA, there are no consequences from that use or downstream consequence for the crop you applied it to, now or in the future, from NOITS activities. Applications of Dacthal Flowable end-use products remain legal and the established United States tolerances remain in place.

What are the next steps in this process? How will it impact the availability of Dacthal Flowable?

AMVAC can continue to manufacture, sell, and distribute end-use products until notification of the appeal process has been completed. AMVAC's customers can continue to sell, distribute, and apply Dacthal Flowable. AMVAC is commitment to continuing to exhaust all options to defend DCPA. Outside of any legal proceedings, AMVAC continues to generate and submit to EPA the data necessary to fulfill the Data Call-In (DCI) Notices required to complete registration review for DCPA, regardless of the suspension status.

Herbicide Plant-Back Restrictions Explained: Purpose and Application

Thierry Besancon, July 8, 2022, Plant and Pest Advisory

Are you crystal clear on the purpose of plant-back restrictions and on the length of time required between a herbicide application and the planting of your next crop or cover crop? If not, the guidance below should help. It was developed based on a poster presentation made during the 2022 annual meeting of the Weed Science Society of America (WSSA). For further information regarding the plant-back restrictions for vegetable crops, please refer to Pest Management section (p. 110-118) of the 2022/2023 Commercial Vegetable Production Recommendations.

- **What is a plant-back interval?**

A plant-back interval is the minimum period of time between a pesticide treatment and the planting of your next crop. The EPA establishes plant-back intervals as label requirements for herbicides, insecticides, fungicides, plant growth regulators and other types of pesticides.

- **What's the purpose of a plant-back interval?**

EPA's primary focus in setting plant-back intervals is to protect human health by preventing over exposure to pesticide residues in crops – including fruits and vegetables. Regulatory experts include all residue sources when assessing human dietary exposure.

- **Do plant-back intervals also address crop phytotoxicity concerns?**

While pesticide registrants may choose to add label instructions to address potential crop injury or phytotoxicity concerns, these instructions are independent of EPA-mandated plant-back restrictions that focus on limiting human exposure to pesticide residues. If your crop is intended to be harvested for human or animal consumption, you must still comply with the minimum residue-based plant-back intervals, regardless of whether phytotoxicity guidance is given.

- **How are plant-back intervals established?**

EPA requires that pesticide registrants submit residue studies to document pesticide levels and related metabolites. Study data is then used to develop appropriate plant-back interval guidance based on allowed tolerance levels in the plant-back crop. All residue sources from pesticides applied within the current and previous growing seasons are included when assessing human dietary exposure. It is important to note that the plant-back intervals specified by EPA are crop specific. The interval specified for tomato, for example, might vary from that established for cole crops.

- **What should I do if I'm planting a crop that isn't specified on the label?**

Crops that are not specifically addressed on the label fall into the "other crops" category and require the maximum plant-back interval indicated on the label.

- **Do plant-back intervals apply to both my rotational crop and my cover crop?**

If the crop is harvested for human consumption or is grazed by or fed to livestock that will be consumed by humans, the crop is considered a "rotational crop" and requires an appropriate plant-back interval to protect human health.

Seasonal plantings that will not be consumed directly by humans or by livestock that will then be

consumed by humans are considered “cover crops.” Cover crops such as ryegrass or hairy vetch are grown to improve soil quality, reduce erosion or manage weeds. Since there is no risk of dietary exposure, plant-back restrictions do not apply when planting cover crops.

- **How do I calculate the plant-back interval?**

To comply with the mandated plant-back interval, use the date of the last pesticide application as a starting point. If, for example, the crop selected has a 365-day plant-back interval, the 365-day window begins on the day after the last pesticide application to the previous crop. You can plant that next crop 365 days later.

NRCS NJ Announces Sign-Up for 2023 Program Offerings

SOMERSET, N.J., July 15, 2022 – The United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) New Jersey is now accepting FY2023 applications for the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), the Agricultural Management Assistance (AMA) program and the Regional Conservation Partnership Program (RCPP).

While NRCS accepts applications year-round, New Jersey producers and landowners should **apply by September 23, 2022** to be considered for funding in the current cycle.

Through EQIP, NRCS provides agricultural producers with one-on-one help and financial assistance to plan and implement conservation practices to address a variety of issues such as water quality degradation, soil erosion, soil quality degradation and inadequate habitat for fish and wildlife.

Special initiatives include Conservation Activity Plans (CAP), Working Lands for Wildlife (WLFW) - Golden Winged-Warbler and the National Water Quality Initiative (NWQI).

CSP is for working lands including cropland, pastureland, and nonindustrial private forest land. Participating farmers will further address priority resource concerns related to soil quality, water quality, air quality, and plant health. On-farm benefits include increased crop yields, decreased inputs, wildlife population improvements, and better resilience to weather variables. For producers who are already taking steps to improve the condition of their land, CSP can help them find ways to meet their goals.

AMA is a voluntary conservation program available to beginning and limited resource farmers, small farms, and producers who have had limited participation in other USDA financial assistance programs. Producers eligible for AMA can apply for financial and technical assistance to voluntarily address resource issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations.

Through RCPP, NRCS seeks to co-invest with partners to implement projects that demonstrate innovative solutions to conservation challenges and provide measurable improvements and outcomes tied to the resource concerns they seek to address. New Jersey's RCPP land management projects are:

- Protecting Source Water Protection in the Raritan Basin – In partnership with the New Jersey Water Supply Authority, conservation systems and practices on farms in the project area will be implemented to promote source water protection.

- Salem River Bog Turtle Protection and Restoration – Lead partner, New Jersey Audubon, will help private landowners increase wildlife habitat and habitat suitability for the endangered Bog Turtle population in the Upper Salem River Watershed by offering financial incentives to install and maintain conservation practices.

- Northern NJ Small Food Link Conservation Project – NRCS Partner, Urban Agriculture Cooperative, will deliver technical and financial assistance to new and historically underserved urban farmers in Northern N.J.

Applications are available through your local USDA Service Center (VINELAND SERVICE CENTER, 1318 S MAIN RD BLDG 5A VINELAND, NJ 08360-6511 (856) 205-1225) and online at www.nrcs.usda.gov/GetStarted. Interested producers can learn more about New Jersey Farm Bill programs on the NRCS NJ website.

Controlling Root Knot Nematode in New Jersey

Andy Wyenandt, July 17, 2022, Plant and Pest Advisory

The Root Knot Nematode does show up from time to time in vegetable production in New Jersey. Fortunately, for New Jersey, the distribution and damage done by the Root Knot Nematode is no where near the levels seen in regions further south of the state. There are two species involved, the Northern Root Rot Nematode (Meloidogyne hapla) and the Southern Root Rot Nematode (Meloidogyne incognito) and both species have been found in the state. Both species have broad host ranges including pepper, tomato, beet, carrot, pumpkin, cantaloupe and many other hosts, including many weeds such as pigweed, lambsquarter, and nightshade. Both species of Root Knot Nematode are migratory as juvenile worms and sedentary as adults where they feed from the outside of roots where the female develops and ultimately forming the symptomatic “knots”. This interferes with normal water and nutrient uptake as well as provides infection points for other soil-borne pathogens. Infected plants will remain stunted and chlorotic as other nearby uninfected plants appear healthy. A single mature female may lay hundreds of eggs causing drastic increases in the population with a single life cycle lasting three to four weeks to months depending on the environment. Heavily infested soils may appear as ‘hot’ spots in the field that will gradually increase in sizeas populations increases over time or from season to season.

Mitigating losses to Root Root Nematodes first involves the scouting for, detection and diagnosing the nematodes involved. There are other species of nematodes that infest and cause damage in vegetable crops. Scout fields for stunted plants in areas that appear as ‘hot’ spots. Simply pulling up stunted chlorotic plants and examining the root systems for the “root knots” will provide a quick diagnosis. Suspect plants should be sent to a local diagnostic lab for correct identification. Importantly, once soil becomes infested the nematodes can easily be spread to other areas of the field during cultivation or be carried around on equipment. Scouting and mapping out those areas that are infested should be noted and saved for future reference. Nematode populations, like soil-borne pathogens, will fluctuate over any given season and between seasons, thus regular scouting and testing are recommended for any field that is infested.

Proper control begins with knowing where the nematode populations are present so preventative actions can be taken, especially if susceptible crops are going to be planted. Choosing crops that are non-hosts are highly recommended. Importantly, hosts such as many commercial tomato varieties, which are Root Knot Nematode resistant, are still capable of heavy infestation, but are simply able to withstand heavy infection without suffering from extensive yield losses.

Chemical controls should be done proactively and preventatively. Please see the 2022/2023 Mid-Atlantic Commercial Vegetable Production Recommendations Guide for specific nematicide uses and recommendations for individual crops and Section E.1.5 starting on page 100 for more information on nematicides and nematode management strategies.

Other Resources:

Root Knot Nematodes in Vegetable Production – UMASS
https://ag.umass.edu/vegetable/fact-sheets/root-knot-nematode

Root Knot Nematodes in Vegetable Production – University of Maryland
https://extension.umd.edu/resource/root-knot-nematodes-vegetables

Below is a nice Extension publication of important nematodes and their host and non-host range from Georgia.

To access Plant-Susceptibility-to-Nematodes-in-Georgia.pdf visit
https://site.extension.uga.edu/worthag/files/2019/10/Plant-Susceptibility-to-Nematodes-in-Georgia.pdf

Edema Development in Brassica Crops

Andy Wyenandt, July 19, 2022, Plant and Pest Advisory

Edema is often expressed as off-color swellings or galls that appear on leaves and stems. Edema develops when epidermal cells hold excessive water due to a slowing of evapotransporation when hot, muggy days are followed by cooler, wetter weather. Edema develops because the plant takes in more water (due to a high soil moisture content) faster than it can get rid of it through evapotranspiration causing cells to rupture which results in the blistering of the leaves. Edema is strictly caused by environmental factors and can appear whenever these conditions are met. Properly monitor soil conditions, irrigation cycles, and the weather to avoid over irrigating on warm, hot early spring days, especially when quick cold fronts/temperature drops and cloudy weather are expected.

New Rutgers Fact Sheets

The following new fact sheet is available on NJAES Publications:

FS1344 Canada Thistle Life Cycle Disruptions for Effective Control in Specialty Crops
Melendez, M. and Besacon, T.
https://njaes.rutgers.edu/FS1344/

FS1345 School Garden Produce Safety Good Gardening Practices Checklist
Melendez, M., Kline, W. and Matthews, J.
https://njaes.rutgers.edu/FS1345/

USDA Searching for Innovations in Climate-Smart Agriculture and Soil Health

SOMERSET, N.J., July 25, 2022 – The U.S. Department of Agriculture (USDA) announced today it will invest $25 million this year for the Conservation Innovation Grants (CIG) On-Farm Conservation Innovation Trials program.

Through CIG, partners work to address our nation's water quality, water quantity, air quality, soil health and wildlife habitat challenges, all while improving agricultural operations. The On-Farm Trials component of CIG supports widespread adoption and evaluation of innovative conservation approaches in partnership with agricultural producers. This year's funding priorities are climate-smart agricultural solutions, irrigation water management, nutrient management and soil health.
"Through science and innovation, we can develop solutions to tackle the climate crisis, conserve and protect our water, enhance soil health, and create economic opportunities for producers," said Terry Cosby, Chief of USDA's Natural Resources Conservation Service (NRCS). "Through On-Farm Trials, partners can work directly with farmers and ranchers to test and adopt new strategies on agricultural lands, accelerating the development and application of conservation that works for producers and the land."

For FY 2022, to ensure that equity is incorporated in the planning and delivery of On-Farm Trials, at least 10% of the total funds available for On-Farm Trials are set aside for proposals that entirely benefit historically underserved (HU) producers. Additionally, applicants competing for the HU set-aside can waive non-federal match requirements.
Applications for On-Farm Trials are being accepted now through September 22, 2022. Private entities whose primary business is related to agriculture, nongovernmental organizations with experience working with agricultural producers, and non-federal government agencies are eligible to apply. For more information and to apply, visit grants.gov

About CIG On-Farm Trials

On-Farm Trials projects feature collaboration between NRCS and partners to implement on-the-ground conservation activities and then evaluate their impact. Incentive payments are provided to producers to offset the risk of implementing innovative approaches.
The Soil Health Demonstration Trial (SHD) component of On-Farm Trials focuses exclusively on conservation practices implementation and systems that improve soil health.

A critical element of each On-Farm Trials project is evaluation. Partners must propose robust scientific approaches to their On-Farm Trials, resulting in data and analyses of the environmental, financial and, to the extent possible, social impacts of the trials.
NRCS intends to use the results of On-Farm Trials project evaluations and analyses to explore the development of new NRCS business practices, guidance documents, technical tools and conservation practice standards or modifications to existing ones. For more information about the Conservation Innovation Grants program, visit the NRCS website. https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/cig/

USDA-Natural Resources Conservation Service, New Jersey Audubon, and Quail Forever Outreach Event Summary

Thursday, 09/08/2022 | 5:00PM-8:00PM
Landis Sewerage Authority 1776 South Mill Road, Vineland, NJ 08360
Please preregister by September 1st by contacting
Alyssa Bright, New Jersey Audubon at Alyssa.bright@njaudubon.org

DESCRIPTION OF EVENT:
New Jersey Audubon (NJA), USDA- Natural Resources Conservation Service (NRCS) and Quail Forever (QF) are partnering to host an event at Landis Sewerage Authority to showcase, explain, and accept applications for funding opportunities available for landowners to partake in conservation practices. While funding for a variety of conservation practices is available through these organizations, Bobwhite Quail habitat restoration, Atlantic White Cedar Forest restoration, and stormwater management on working land practices will be highlighted at this event. There will be an opportunity for attendees to tour the grounds and view these projects in action, then gather for refreshments to learn how they too can implement these practices on their own land with the assistance of funding and technical assistance provided by these organizations.

BACKGROUND ON QUAIL RESTORATION:
In partnership with NRCS and New Jersey Division of Fish and Wildlife (NJDFW), Quail Forever aims to establish and enhance quail habitat on private lands within NJ. The habitat work being completed does not only benefit quail, it benefits a suite of other species as well! This bobwhite initiative is focused on landowners signing up for NRCS programs which provide financial assistance for applying quail management practices. If landowners are not eligible or prefer not to work with these programs, technical assistance is also available. Technical assistance includes recommendations and guidance of managing suitable quail habitat.

BACKGROUND ON ATLANTIC WHITE CEDAR RESTORATION:
Atlantic White Cedar is a declining species within New Jersey, and throughout its range. However, southern New Jersey is home to remaining intact stands and holds the potential for a promising future for the species. New Jersey Audubon has made it a goal to restore Atlantic White Cedar forests because with their decline comes a trickle-down effect resulting in the decline of other rare plant and animal species that depend on them, and a reduction in water filtration and flood mitigation. Part of New Jersey Audubon's mission through our Healthy Land and Waters Grant is to implement restoration work with private landowners who have Atlantic White Cedar forests on their property within the Rancocas Creek and Maurice River Watersheds. Restoration work is guided by management prescriptions within a Forest

Stewardship Plan written by a state approved forester. Management activities may include brush management to clear space for cedar seedling establishment, forest stand improvement to remove competing trees from the overstory, and supplemental planting to facilitate regeneration.

BACKGROUND ON STORM WATER MANAGEMENT PRACTICES ON WORKING LANDS:

Programs providing technical and financial assistance are available to farmers and landowners in New Jersey who wish to conserve natural resources such as soil and water while also enhancing wildlife habitat. Practices that New Jersey landowners can implement on their own property to achieve these conservation goals include but are not limited to reduced/no till land preparation, grassed waterways, cover crop, and conservation cover. Enrolling in programs for these practices through USDA's Natural Resources Conservation Service or New Jersey Audubon will help achieve reduced storm water runoff, reduced water contamination, and increased groundwater recharge.

Calendar of Events

- Indicates a newly added event

August 16-17, 2022

North American Strawberry Growers Association Summer Tour; Toronto Canada. More information at www.vegetablegrowersnews.com/events/

August 18-19, 2022

Citrus, Vegetable & Specialty Crop Expo; North Fort Meyers, Florida. More information at www.vegetablegrowersnews.com/events/

August 24-26, 2022

Farwest; Oregon Convention Center; Portland, OR; The biggest green industry trade show in the West. With nearly 400 exhibitors, nursery and retail garden center industry. Whether you're a grower, retailer, wholesale buyer, supplier, or landscape professional, you'll find that Farwest offers you the complete trade show experience; For more information visit https://farwestshow.com

August 29-30, 2022

International Carrot Conference; Mount Vernon, WA; its purpose is to bring together everyone and anyone interested in carrots: growers, packers, shippers, seed producers, breeders, pathologists, sellers, marketers, University and government researchers, extension specialists, students and anyone interested in the carrot industry; For more information email dutoit@wsu.edu or snolan@agmgt.com or visit InternationalCarrots.org

September 12-14, 2022

Florida Fruit & Vegetable Association 2022; Fernandina Beach, Florida; More information at www.vegetablegrowersnews.com/events/

September 26-28, 2022

2022 International Pepper Conference; Arizona; The academic program taking place in Tucson, Arizona and the chie pepper variety trial, mechanical harvest, field and equipment demonstrations occurring at the Curry Chile and Seed Co. in Pearce, Arizona. The deadline for early bird registration is August 26, 2022. Registration and additional information can be found at this link: https://extension.arizona.edu/ipc/

September 14, 2022

Pesticide Exams at Cumberland County Extension Office; Rutgers Cooperative Extension of Cumberland County, 291 Morton Ave., NJ 08332; 9AM-4PM; Save the date! Rutgers will adminster exams in our office for pesticide licensing. More information will be available at a later date.

September 21, 2022

CORE Basic Pesticide Training Course; Bioresource Engineering Laboratory (formerly ECC), 18 Ag Extension Way, New Brunswick, NJ 08901; 12:30PM- 4:30PM; $145; This is the first step in training for individuals interested in becoming a licensed NJ pest control operator and/or applicator. This course satisfies New Jersey's requirement of attending a basic pesticide training course for new applicants seeking to gain a state license; Register online and find more information at https://cpe.rutgers.edu/pesticide-application/core-basic-pesticide-training

September 28-29, 2022
Northeast Green Industry Showcase; Roger K. Everitt Fairgrounds, 1207 County Route 179, (Just off US Route 202), Lambertville, NJ 08530; Join the New Jersey Landscape Contractors Association as we present the New Jersey metropolitan area's largest outdoor industry Trade Show, Demo Days and Showcase; Register online at https://ngis-nj.com/registration-information/

October 18, 2022
Pesticide Applicator Seminar; 9AM - 12PM, RCE Gloucester County, 254 County House Road, Clarksboro, NJ 08020; $50

October 18-20, 2022
FIRA USA 2022 Ag Robotics Forum; Fresno, California; More information at www.vegetablegrowersnews.com/events/

October 26, 2022
CORE Basic Pesticide Training Course; Bioresource Engineering Laboratory (formerly ECC), 18 Ag Extension Way, New Brunswick, NJ 08901;12:30-4:30 PM $145; This is the first step in training for individuals interested in becoming a licensed NJ pest control operator and/or applicator. This course satisfies New Jersey's requirement of attending a basic pesticide training course for new applicants seeking to gain a state license; Register online and find more information at https://cpe.rutgers.edu/pesticide-application/core-basic-pesticide-training

November 18, 2022
CORE Basic Pesticide Training Course in Spanish; Bioresource Engineering Laboratory (formerly ECC), 18 Ag Extension Way, New Brunswick, NJ 08901;8:00AM-12:00PM; $145; This is the first step in training for individuals interested in becoming a licensed NJ pest control operator and/or applicator. This course satisfies New Jersey's requirement of attending a basic pesticide training course for new applicants seeking to gain a state license; Register online and find more information at https://cpe.rutgers.edu/pesticide-application/core-basic-pesticide-training

December 6, 2022 - December 8, 2022
Great Lakes Fruit, Vegetable & Farm Market EXPO; Grand Rapids, Mi; More information at www.vegetablegrowersnews.com/events/

December 13, 2022 - December 15, 2022
New England Vegetable & Fruit Conference; Manchester, N.H.; More information at www.vegetablegrowersnews.com/events/

February 3-7, 2023
North American Farmers' Direct Marketing Association (NAFDMA) Convention; Austin, TX**;** The convention will have all the great farm tours, educational sessions, presenters, exhibitors, and agritourism connections you have come to expect. Visit www.nafdma.com for more information

February 9-10, 2023
Alabama Fruit & Vegetable Growers Association Annual Conference and Trade Show; Gulf Shores, Alabama; More information at www.vegetablegrowersnews.com/events/

Regularly Scheduled Meetings

Pesticide Credit Exams

August 17th, 10AM, 12PM
December 8th, 10 AM, 12 PM
RCE - Westhampton, NJ

September 14th, 10AM, 12PM
RCE - Millville, NJ

October 18th, 10AM, 12PM
Monmouth - Freehold, NJ

Virutal testing available.

Sign-up and find more information at
https://pacer.rutgers.edu/

Cumberland County Agriculture Development Board

Virtual Meetings Information can be found on the Public Meeting Calendar on
co.cumberland.nj.us

Meetings are held on the 2nd Tuesday of each month. Meetings start at 7 p.m.

For more information call the Dept. of Planning, Tourism, and Community Affairs at 856-453-2175

Cumberland County Board of Agriculture

Virtual Meeting Information
https://rutgers.zoom.us/my/smangia
Meeting ID: 529 557 9817
Passcode: Sal2020
or call in at 1 (646) 558 - 8656

Meetings are held on the 3rd Thursday of September- May at 7 p.m. in-person at RCE

Sincerely,

Wesley L. Kline, Ph.D.
Cooperative Extension Agent
Vegetable Production and Food Safety
WKline@njaes.rutgers.edu

Timothy J. Waller, Ph. D.
Cooperative Extension Agent
Nursery Production
TWaller@njaes.rutgers.edu

Salvatore Mangiafico, Ph. D.
Extension Department Head &
Environmental and Resource Mgt. Agent
Mangiafico@njaes.rutgers.edu

RUTGERS
New Jersey Agricultural Experiment Station

Have you visited the Cumberland County website for the
Present and /or past issues of "Cultivating Cumberland"?
It's a great resource for information and dates...
https://Cumberland.njaes.rutgers.edu/

Public Notification and Non-discrimination Statement

Rutgers Cooperative Extension is an equal opportunity program provider and employer. Contact your local Extension Office for information regarding special needs or accommodations. Contact the State Extension Director's Office if you have concerns related to discrimination, 848-932-3584.

Cooperative Extension of Cumberland County

Since 1915

Cooperative Extension of Cumberland County
Extension Education Center
291 Morton Avenue
Millville, NJ 08332-9791

RUTGERS
New Jersey Agricultural Experiment Station

NONPROFIT ORGANIZATION
U.S. POSTAGE PAID
VINELAND, NJ
PERMIT NO. 186

RUTGERS
New Jersey Agricultural Experiment Station

Cooperative Extension of Gloucester County
Shady Lane Complex
254 County House Road
Clarskboro, NJ 08202

http://gloucester.njaes.rutgers.edu/
Phone: 856-224-8040
Fax: 856-224-8027

PESTICIDE APPLICATORS SEMINAR

(For Farmers, Landscapers, and All Pesticide Applicators. All Are Welcome)

Rutgers Cooperative Extension of Gloucester County
Shady Lane County Complex – Sullivan Room Auditorium
254 County House Road, Clarksboro, NJ 08020

Enter through side ramp on far right of the building

Tuesday, October 18, 2022

9AM-12:00PM

Pre-Registration Appreciated/Walk-Ins Welcome (Pay at door)

$50 per person (Cash or Checks Only)

Please make checks payable to: Rutgers the State University of NJ

Educator: Michelle Infante-Casella, Agricultural Agent, Gloucester Co.

9:00 AM……..Pesticide Storage Facilities and Pesticide Disposal

10:00 AM……Pesticide Record Keeping, Notification, and Posting

10:30 AM……Insect Identification and Life Cycles for Proper Control Strategies in Landscapes, Turf, and Farm Fields

11:00 AM…….Weed Identification: Annuals and Perennials: Know Your Weeds in Landscapes, Turf and Farm Fields

11:30 AM…….Common Plant Diseases of Major Crop/Plant Groups

12:00 PM …….Pesticide Credits and Adjourn

The following credits have been assigned by NJ DEP:
3 - CORE Credits
3 - PP2 Credits
3 - 3A Credits
3 - 3B Credits
3 – 1A Credits

Call 856-224-8040 ext. 1 or email jmedany@co.gloucester.nj.us to pre-register.

JUDITH M. PERSICHILLI, RN, BSN, MA
Commissioner

Health Advisory

Key Message for Healthcare Providers: Preventing Heat-Related Illness and Death Among People Most at Risk during Excessive Heat Events

- **Identify people at increased risk for heat-related illness (see checklist on right)**
- **Remind patients that all hot weather, particularly heat waves, can be dangerous and instruct them to use air conditioning**
- **Encourage people to pay attention to official announcements about places where they can go to get relief from the heat**
- **Refer people without air conditioning to NJ 2-1-1 for information regarding Cooling Centers: www.nj211.org/nj-cooling-centers**
- **Please be aware that emergency activations and resources opened in response to extreme heat or storm events change as quickly as the weather. In addition to the link above, you can also refer to your county's Office of Emergency Management web page for information.**
- **Instruct patients and their caregivers to stay cool and well-hydrated**

People experiencing homelessness can dial 2-1-1 or 877-652-1148 (If you are using a rotary dial phone, please dial 1-877-746-5211)

Identifying Patients at Risk for Heat-Related Illness and Death

People who do not have or use air conditioning **and** have one or more of these risk factors:

- ☐ Chronic health conditions including:
  - ☐ Cardiovascular, respiratory, or renal disease
  - ☐ Obesity (BMI > 30)
  - ☐ Diabetes
  - ☐ Serious mental illness such as schizophrenia or bipolar disorder
  - ☐ Cognitive or developmental disorder that impairs judgment or self-care, such as dementia
- ☐ Have difficulty thermoregulating or use medications that can impair thermoregulation, including:
  - ☐ Diuretics
  - ☐ Anticholinergics
  - ☐ Antipsychotics
- ☐ Substance use disorder or excessive alcohol consumption
- ☐ Socially isolated or with limited mobility

Additional guidance for people at greater risk to heat-related illness or death

- Remind patients that heat events (heatwaves) are not just uncomfortable but can be dangerous and should seek immediate medical attention if they are experiencing signs of heat stroke or are experiencing symptoms of heat exhaustion that do not improve within one hour. The table below details the warning signs of heat stroke and heat exhaustion:

Heat Stroke	**Heat Exhaustion**
Very high body temperature	Heavy sweating
Red, hot, dry skin (no sweating)	Headache
Rapid, strong pulse	Weakness
Headache	Fatigue
Dizziness	Dizziness
Nausea	Nausea or vomiting
Confusion, loss of consciousness	Muscle cramps

- Discuss with people and their caregivers about the signs and symptoms of heat-related illness or risk of exacerbating chronic medical conditions associated with excessive heat and provide guidance about when to call 911 or go to the emergency department. Patients experiencing symptoms of heat stroke should call 911. Patients who are vomiting or experiencing symptoms of heat exhaustion that do not improve within 1 hour should seek immediate medical attention.
- Engage caregivers and other support networks to frequently call or otherwise remotely check on heat-vulnerable people to help them stay cool and well-hydrated before and during hot weather. Remind them that all hot weather – including but not limited to heatwaves – can be dangerous and help them develop a plan to stay cool.
- Encourage them to monitor weather alerts and make sure they have a plan for cooling relief during extreme heat.
- Encourage people to use their air conditioners. Suggest setting air conditioners to 78 degrees or "low" cool to provide comfort, save on electricity costs, and conserve energy.
- Let people know that NJ will share a list of available cooling spaces prior to and during a heatwave. Also, people can call 2-1-1 or go to www.nj211.org/nj-cooling-centers to find a cooling center in New Jersey.
- Advise people to increase fluid intake during hot weather.
- Recommend self-monitoring of hydration, such as body weight measurement, for patients who have health conditions sensitive to fluid balance or use medications that can impair thermoregulation or cause dehydration.

Resources for New Jersey Licensed Private Pesticide Applicators & Growers

RUTGERS New Jersey Agricultural Experiment Station

1. **Rutgers University New Jersey Agricultural Experiment Station** (NJAES) Cooperative Extension website: https://njaes.rutgers.edu/. NJAES Fact Sheets and publications are available online and updated routinely at https://njaes.rutgers.edu/pubs/. The 2022 Mid-Atlantic Commercial Vegetable Recommendations E001 now published! Pesticide Sections of the Mid-Atlantic Veg Recs were wholly revised in 2020 and updated for 2022. The 2021 Rutgers New Jersey Commercial Tree Fruit Production Guide E002 Pesticide Safety Section was updated with the 2020 NJ regulation revisions.

2. **Rutgers University NJAES Plant & Pest Advisory**: https://plant-pest-advisory.rutgers.edu/. Timely seasonal updates focusing on insects, diseases, and weeds of importance to NJ Commercial Growers & Nursery/Landscape/Ornamental/Turf. FREE. Subscribe by email or RSS.

3. **Rutgers NJAES Pest Management Office**: (848) 932-9802. **ENROLL IN BLOG**.
   a. **Pesticide Safety Education Program**: https://pestmanagement.rutgers.edu/PAT/. **GOOGLE** "**RUTGERS PSEP**"
      - Pesticide Applicator Certification & Licensing Requirements
      - Training Manuals *online ordering now available with delivery to your home or business*
      - Pesticide Applicator Certification Exam Access
      - Pesticide Applicator Recertification Training
      - Pesticide Record Keeping NEW templates (in Word, Excel, or pdf)
      - Pesticide Spill Report Cards

      Worker Protection website & blog*:* https://pestmanagement.rutgers.edu/worker-protection/. Created forgrowers and their employees on the 2015 revised Worker Protection Standard. Rutgers "Quick Connect" for WPS videos for both handlers & workers in both English & Spanish. FREE.

4. **New Jersey Department of Environmental Protection**:
   a. N.J.A.C. 7:30 State pesticide regulations were revised April 6, 2020. Govern the manufacture, distribution, and use of pesticides in New Jersey; see https://www.nj.gov/dep/enforcement/pcp/pcp-regs.htm Subchapter 8 Private Pesticide Applicator Certification & Licensing; Subchapter 9 Exposure Management; and Subchapter 12 Worker Protection (including revisions for parity with federal WPS).

   b. **Licensing & Registration**: https://www.state.nj.us/dep/enforcement/pcp/bpo-pesticide-links.htm for current status of pesticide examinations and COVID recertification course policy exemption for 5-year recert credit period extended through Oct 31, 2022. Provides links to check if you need recertification credits for your 2022 applicator license renewal, as well as links to NJDEP-approved recertification courses.

   c. **NJDEP DataMiner** web portal at https://www.nj.gov/dep/enforcement/pcp/pcp-online.htm provides online license fee payment and reports for applicators, operators, dealers, and businesses (e.g., recertification courses, license, or certification status); also lists of registered pesticides.

   d. **NJDEP Worker Protection Unit** webpage at https://www.state.nj.us/dep/enforcement/pcp/pcp-wps.htm. Templates for Worker & Handler Training Rosters/Records; WPS Trainer Verification Form. For specific questions about NJDEP's implementation of the revised WPS, please contact Nancy Santiago, Supervisor of the Worker Protection Unit at 609-984-6568, or contact her by email at pcp@dep.nj.gov.

   e. Search for **NJ pesticide registrations** at http://www.kellysolutions.com/NJ/.

   f. NJDEP **General information**: 609-984-6507. **Spill report** (reportable spills): **1-877-WARNDEP**.

   g. The **P**esticide **A**pplicator **C**ertification **E**xam **R**egistration (PACER) system is the NJDEP's approved third party exam administration system managed by the Rutgers NJAES Office of Continuing Professional Education (OCPE). This online exam application portal is located at https://pacer.rutgers.edu. Set up account and apply for exams 24/7. When you create an online account, you will have an online "Dashboard" to track your exam(s).

      Payment for exams is required prior to approval; approval turnaround is approximately 48 hours. The fee to take the Private applicator exam is $50 each; commercial applicator CORE and category exams are $115 each. Payment by credit card, electronic checking, or Purchase Order.

Pesticide exams may now be taken online 24/7. Exams have a maximum time allotment of 1 hour 45 minutes. **OCPE contact is Jill Sullivan**; pacer@njaes.rutgers.edu**. Phone: 848-932-7443 or 848-932-9271 Option 7.** Fax: 732-932-4546. Hours of operation: Monday-Friday, 8 AM-4:30 PM.

Due to COVID, pesticide exams are only available to be taken online; but can be accessed 24/7. Exams are offered through Rutgers University online learning management system "Canvas". Once your exam application is approved, you will receive a Canvas Course invitation with detailed instructions from Rutgers Canvas from email address notifications@instructure.com; check spam for the invitation if have not received within 48 hours. If your exam application is denied you will receive an email from OCPE with the reason and steps to rectify the issue.

Exams taken in Canvas are proctored using artificial intelligence software "Proctorio" which uses facial detection. All exam takers must install Proctorio on their computers to be allowed to take the online exam. Proctorio will guide you through the "Pre-check Steps" and the "Systems Diagnostic Tool". You will show a valid photo-identification, such as a driver's license to the screen and perform a room check as directed at the time of examination. You must be onscreen for the entire exam; no breaks are allowed.

The system requires use/installation of the Google Chrome browser in advance. See https://pacer.rutgers.edu/docs/online/proctorio_requirements.pdf for detailed software and hardware requirements [computer (no mobile devices); camera/webcam; microphone (internal or USB); and reliable internet connection with at least a 1.0 Mbps upload speed].

5. **New Jersey Pesticide Information and Education System**. The designated regional Poison Control Center with a national number: (1-800-poison1/)/ (1-800-222-1222). Website: https://www.njpies.org/.

6. **Pesticide Safety Data Sheets (SDS) for Revised Worker Protection Standard**: CDMS at http://www.cdms.net/LabelsSDS/home; and Agrian: https://home.agrian.com/. See also pesticide manufacturer websites under #7 below.

7. **National Pesticide Information Center** (NPIC) provides general and technical information about pesticides; see home page at http://npic.orst.edu/index.html. *See also their comprehensive list of pesticide manufacturers to request specific pesticide product information*: http://ace.orst.edu/info/npic/manuf.htm.

8. **P**esticide **E**ducational **R**esources **C**ollaborative (**PERC**) - develops or coordinates the development of pesticide education resources with online access at http://pesticideresources.org/index.html. Houses both EPA-approved and non-approved resources. See #3 Rutgers PSEP for EPA-approved "Quick Connect" WPS training videos.

9. **N**ational **P**esticides **S**afety **E**ducation **C**enter (**NPSEC**) **-** https://npsecstore.com/pages/perc-page**.** Online store for pesticide publications including EPA 2015 Revised WPS manuals, DVDs, thumb drives, bundles, and laminated Pesticide Safety Information posters for the Central Posting Area. Multi-lingual resources.

10. **EPA Pesticides Homepage** at https://www.epa.gov/pesticides. REVISED **EPA Pesticide Poisoning Handbook** 'Recognition and Management of Pesticide Poisonings 6th Edition' downloadable from https://www.epa.gov/pesticide-worker-safety/recognition-and-management-pesticide- poisonings. Free copies of the manual (EPA publication number 735K13001) are available from the National https://www.epa.gov/nscep.

11. **EPA Office of Pesticide Programs** 'Pesticide Chemical Search' webpage for conventional, antimicrobial, and biopesticide active ingredients; see https://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1. Has label product label search function http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1.