



Greenhouse TPM/IPM Report
Central Maryland Research and Education Center
Ellicott City, Maryland

September 16, 2026

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Cut Flower Program: Lectures and Farm Tour
September 29, 2026

Locations:

Morning: Central Maryland Research and Education Center, 4240 Folly Quarter Road, Ellicott City, MD

Afternoon: Tour of Tanglewood Flowers Farm, Ashton, MD

Managing Soil Fertility: A Primer on Plant Nutrition and Soil Management (Andrew Ristvey, UME)

Is A Flower Cooperative the Next Step for Your Business? (Jill Coutts, Tanglewood Flowers Farm, and Lisa Dirks, Chesapeake Flower Exchange Founding Memeber)

An Introduction to Tea and Edible Chrysanthemums (Xuan Wei, UME)

Insect Pest Management in Cut Flowers (Laura Nixon, UME)

Common Diseases on Cut Flowers (Dave Clement, UME)

Tour of Tanglewood Farm (Jill Coutts)

For more information and to register, go to: <https://26SeptCutflower.eventbrite.com>



Flower of the Month

By: Krystal Snyder

Buddleia Chrysalis™ ‘Steel Blue’ Darwin Perennials was a standout in the Penn State Flower Trials in both 2025 and 2026. After being named Best of Show and Best of Species in 2025, it backed that up with another 5.00 overall rating in 2026, ranking #1 of 7 *Buddleia*.



***Buddleia* Chrysalis™ ‘Steel Blue’ Darwin Perennials**
Photo: Krystal Snyder



Sunflower Diseases

By: David Clement & Ben Beale, UME Extension

Many sunflower cultivars are coming to market at this time of year. Several diseases such as *Alternaria* leaf spot, Downy mildew, Powdery mildew and Rust will be more common as late season problems. Both *Alternaria* leaf spot and Downy mildew have been persistent foliar diseases in our area over the last 5 years. Fungicide sprays after symptoms are visible will not manage diseases adequately. Production of healthy sunflowers starts at planting and continues through harvest.

It starts with seed selection and buying new seeds rather than saving your old seed from last season. Buy certified seeds from a trusted source. Many diseases are transferred to the seed shell and will infect new seedlings at planting. Diseases carried as contaminants on the shell include *Alternaria* leaf blight, *Verticillium* wilt, and *Fusarium* species. Downy mildew is systemically carried inside the seed. Many growers plant a



succession of sunflowers, with each new planting directly adjacent to the last. While convenient for production, this technique can allow spores from the older plantings to move into new plantings, with progressively more disease pressure accumulating through the season. Separating plantings by space and time will reduce disease spread. There is now a good selection of downy mildew resistant (DMR) sunflowers for the cut flower market. Remove

***Alternaria* can be transferred on the shell of the seed**

Photo: Howard F. Schwartz, Colorado State University, Bugwood.org

stunted downy mildew infected plants when the first symptoms are visible to prevent disease build up in the crop or soil. Select downy mildew resistant cultivars if this is a problem in your fields. Rotation is an important tool to reduce avoid buildup of soil borne diseases. To avoid cool season diseases such as damping off wait for soil temperatures to reach at least 70 degrees before planting. If present early, manage Alternaria foliar diseases to prevent plant collapse from numerous blight causing lesions.

If you're growing successions of sunflower crops, then you will need to establish multiple disease management strategies and rotate fungicide chemistries to manage resistance. For example, you may have to sacrifice plant density and use wider plant spacing to improve air circulation for management of Alternaria. This fungus can also survive on plant debris and certain weed species as well so use selective tillage for surface crop residues and weed control.

Synthetic chemistries for sunflower disease management include Medallion (fludioxonil)(12), Eagle (myclobutanil)(3), Palladium WDG (fludioxonil)(12/9), Mural (azoxystrobin and benzovindiflupry)(11/7), Orkestra (fluxapyroad and pyraclostrobin)(11/7), Mancozeb (M3), and Broadform (flupyram and trifloxystrobin) (7/11). The numbers indicate the FRAC codes and products need to be rotated between codes to prevent resistance within the fungal species.



Downy mildew symptoms on the upper leaves and reproductive structures on the lower leaves of sunflower
Photos: Suzanne Klick

Blister Beetles

By: Suzanne Klick

A Maryland cut flower grower reported blister beetles on Japanese anemone last week. The beetles came, fed on the flowers, and disappeared quickly before any control measures could be applied. Blister beetles can do a lot of damage, but they usually do not stick around for long. When cutting flowers, be sure to wear gloves. Blister beetles produce cantharidin which causes painful skin blisters.



Margined blister beetles have been a common species seen this season at our research center in Ellicott City, MD.

Photo: Suzanne Klick

Broad Mites on Dahlia

By: Ruth Benner, Commercial Horticulture Educator, Penn State Extension

In late August, a Dahlia grower in Erie, Pennsylvania noticed unusual foliar symptoms on the newest leaves. Many leaflets were tightly rolled under, and the leaves have a bumpy texture. The symptomatic leaves are slightly darker green than the non-symptomatic leaves, and the undersides have a slightly bronzed appearance.

The leaves were viewed with a microscope, and broad mites (*Polyphagotarsonemus latus*) were found. Broad mites are extremely small (adults are around .25mm long) and difficult to see without a hand lens or microscope. The eggs are covered with rows of tiny pegs, giving them a polka-dot appearance. The eggs are found in the greatest numbers close to the central veins and are often easier to see than the adults. Under hot, humid conditions, broad mites can develop from egg to adults in 6 to 10 days, so a small infestation can become a large problem very quickly.

Broad mites favor feeding on the newest plant tissue and are found on upper stems and meristems. As they feed, they inject a salivary toxin that causes leaf distortion, curled margins, stunting, and a thick, brittle texture. These symptoms can resemble herbicide damage. Other symptoms include bronzing of the undersides of leaves or stems near the terminal bud.

Management

Cultural Control: If a “hot spot” is detected, the most effective first step is to remove the infested plant entirely or cut back stems to below the symptomatic tissue. Follow up by applying a miticide to the affected plant and its surrounding neighbors.

Chemical Control: Because broad mites prefer to live in developing buds and on the undersides of curled and distorted leaves, they can be difficult to reach with a miticide spray. Using a miticide with translaminar activity (such as abamectin, spiromesifen, or chlorfenapyr) may be more effective than contact miticides.

Broad mites are in the Tarsonemidae Family. Many miticides that control spider mites (Family: Tetranychidae) will not control broad mites, so it is important to read product labels to make sure the products you choose are labeled to control “broad mites”, “*Polyphagotarsonemus*” or “tarsonemid mites”.



Dahlia leaves near the tops of the stems appear distorted, wrinkled, and dark green.

Photo: Ruth Benner, Penn State



Dahlia margins are rolled under.

Photo: Ruth Benner, Penn State



Broad mites and eggs are found on the underside of the leaves and are most abundant near the veins of the leaves. The eggs are covered with rows of tiny pegs, giving them a distinctive polka-dot appearance.

Photo: Ruth Benner, Penn State

Insecticides/Miticides that are labeled for broad mite management include:

- Akari [Fenpyroximate] (Group 21A) – greenhouses only
- Avid [Abamectin] (Group 6)
- Magus [Fenazaquin] (Group 21A) – greenhouses and shade houses only
- Pylon [Chlorfenapyr] (Group 13) – commercial greenhouses only
- Sanmite [Pyridaben] (Group 21A) - greenhouses and shade houses only
- Judo [Spiromesifen] (Group 23) -greenhouse only
- Savate [Spiromesifen] (Group 23)
- Sirocco [Abamectin + Bifenazate] (Groups 6 + 20D)
- Triact [Clarified Hydrophobic Extract of Neem Oil] (Group UNM)
- Vykenda [Plinazolin] (Group 30)
- Horticultural/ summer oil as: Suffoil-X, TriTek, Ultra-Pure, others (Group UNM)



Broad mites favor new leaves and meristem tissue. Here, mites and eggs are visible on the terminal bud of a dahlia stem. The brown, scabby tissue on the stem is the result of the broad mites' salivary toxins.

Photo: Ruth Benner, Penn State

Always consult the pesticide label before application for site use and crop limitations. The numbers indicate the IRAC codes. Products need to be rotated between codes to prevent resistance.



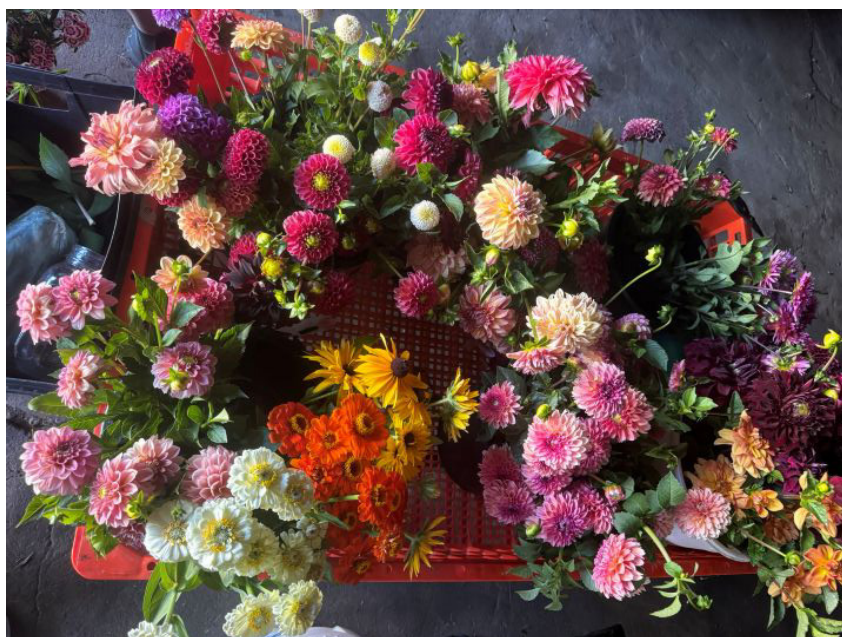
Pre-Frost Checklist for Dahlias

By: Kelly Piccioni, Penn State Extension

As Frostmas will soon be approaching, the grower adopted term for the first killing frost that brings dahlia production to an end, there is still important work to do in the field. Use these final weeks to protect marketable stems, evaluate plant health, identify which tubers should be carried into storage, and record cultivar performance while the crop is still standing.

- Adjust irrigation as temperatures and evapotranspiration decline. Flowering plants still require adequate moisture, but irrigation should reflect rainfall, soil moisture, drainage, and current crop demand. Avoid prolonged saturated soil conditions.

- Mark desirable plants and verify cultivar labels before frost damages the foliage. Record flowering time, stem quality, marketable yield, plant vigor, and recurring



Before dahlias are killed off by the first heavy frost, record how well different dahlias performed as cut flowers during the year.

Photo: Kelly Piccioni, Penn State Extension

pest or disease problems while differences are still easy to evaluate.

- Sanitize tools and equipment used for harvesting, cutting, digging, and dividing, particularly after working with symptomatic plants. Remove soil and plant debris before applying an appropriate disinfectant.
- Minimize cuts, bruising, broken necks, and crown damage during digging and handling. Keep questionable tubers separate during digging, processing, and storage.
- Allow tubers to dry adequately before storage. Store under cool, stable conditions with appropriate ventilation while preventing freezing and excessive dehydration.
- Check stored tubers periodically and remove material that becomes soft, discolored, water soaked, moldy, or shows other signs of decay.
- Record areas of the field with poor drainage or recurring root, crown, virus, or insect problems. These observations can help guide crop rotation, drainage improvements, cultivar selection, and planting decisions next season.



Mark desirable dahlia cultivars before Frostmas occurs this fall.

Photo: Kelly Piccioni, Penn State Extension

Harlequin Bugs

By: Laura Nixon

Walking through our research plots at CMREC (Clarksville, MD) this week, we noticed an increase in harlequin bugs (*Murgantia histrionica*) feeding on a variety of plants, including ornamental kale, sunflowers, and starflower (Borage). This species is highly polyphagous and will feed on a large number of herbaceous and woody plants. Harlequin bugs have piercing, sucking mouthparts which they insert into leaf tissue to feed. This causes white spotting on foliage which will darken over time, and heavy feeding can lead to wilting. As we head into fall, harlequin bugs will overwinter in ground debris. At this time of year, we recommend clearing up any crop debris to minimize harlequin bug adults in your crops next spring.



Feeding by harlequin bugs leaves white spots on foliage like on this ornamental kale.

Photo: Suzanne Klick, UME

It's a Caterpillar Time of Year

By: Laura Nixon

In the past month, we have planted some perennial and late season annual flower plots at CMREC. Walking through our new plots (and doing a touch of weeding), we have been seeing a huge uptick in caterpillars as Fall approaches.

We are frequently seeing the yellow striped armyworm (*Spodoptera ornithogalli*) which is a generalist feeder that attacks many fruits, vegetables, and flower crops, including sunflowers, mums, and roses. Imported cabbage worm (*Pieris rapae*) is also present; this species generally feeds on brassicas, but can also be a problem on ornamental plants in the mustard family, such as sweet alyssum (*Lobularia maritima*). Imported cabbageworms chew holes in larger leaves and strip tender new growth.

We also expect to start seeing cabbage looper (*Trichoplusia ni*) which will chew on both leaves and flowers of many crops, including flowering kale, snaps, and mums. The cross striped caterpillar (*Evergestis rimosalis*) exclusively feeds on brassicas. Since we have planted ornamental kale in our plots, this caterpillar will likely show up to feed on the leaves and terminal buds.

We have also been seeing common buckeye butterfly caterpillars. The plant hosts of this caterpillar feeds include plantains and snapdragon.

General management notes: You can prevent moths and butterflies laying their eggs on your crops using exclusion netting. If you have damaging caterpillars present, you can pick them off your plant or treat with a Bt product (*Bacillus thuringiensis*) if numbers are high. At this time of year and in the coming month, we advise cleaning up your crop debris to minimize areas for these species to overwinter in your crops.

We are also seeing a lot of yellow woolly bear around. These aren't a pest and develop into the pretty Virginian tiger moth (*Spilosoma virginica*). If you are seeing the odd one feeding on your crop, use a leaf to gently move it elsewhere. This species isn't harmful, but the hairs can irritate your skin.



Yellow woolly bear caterpillars are usually not a problem on cut flower crops.

Photo: Laura Nixon, UME



This ornamental kale is host to two damaging caterpillars; the yellow striped armyworm and the imported cabbageworm.

Photo: Suzanne Klick, UME

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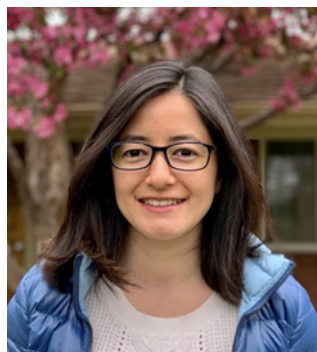
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