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IPMnet
Integrated Pest
Management for
Commercial Horticulture
extension.umd.edu/ipm

If you work for a commercial horticultural business in the area, you can report insect, disease, weed or cultural plant problems (**include location and insect stage**) found in the landscape or nursery to sklick@umd.edu

Coordinator Weekly IPM Report:

Stanton Gill, Extension Specialist, IPM for Nursery, Greenhouse and Managed Landscapes, sgill@umd.edu. 301-596-9413 (office) or 410-868-9400 (cell)

Regular Contributors:

Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Nancy Harding, Faculty Research Assistant

Disease Information: Karen Rane (Plant Pathologist), David Clement (Extension Specialist), and Joe Roberts (Plant Pathologist for Turf)

Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)

Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)

Fertility Management: Andrew Ristvey (Extension Specialist, Wye Research & Education Center)

Design, Layout and Editing: Suzanne Klick (Technician, CMREC)

Trees Fall With Heavy Rains

By: Stanton Gill

Last Wednesday and Thursday (July 26 and 27), rain came down in wave after wave. It caused ravines to form in gravel driveways, streambeds to overflow, and many large trees to fall over. On Rt. 97 in Glenwood, several very large trees fell across the road. Bob Mead, Mead Tree and Turf, reported that the trees fell in different directions, similar to a mini-tornado. Sections of Frederick, Northern Baltimore, Carroll, and Howard counties experienced extremely heavy rainfall, causing streams to flood over bridges. Arborists were very active in these areas taking care of fallen trees. I called Ben Beale, UME - St. Mary's County, and he reported 10 - 12" of rain last week in southern Maryland. Several crop fields were wiped out with the excessive rain.



After heavy rains in Frederick, snails were found crawling up this styrax
Photo: Greg Kenel, Creative Landscapes by Gregory

Greg Kenel, Creative Landscapes by Gregory, reported that there was "3 inches of rain in approximately 45 minutes on Friday afternoon flooding our area of Frederick. Snails were found up in the *Styrax japonica* climbing through the trees".

Sad News

Dr. Frank Gouin, Professor Emeritus, University of Maryland, passed away yesterday. His life and work touched many people in this industry both personally and professionally. Our condolences go out to the family and friends of Dr. Gouin. He will be deeply missed.

We do not have information on funeral arrangements at this time.

Caterpillar Defoliating Trees in St. Mary's County

By: Stanton Gill

Ben Beale, UME - St. Mary's County, sent in several pictures of a caterpillar defoliating forest areas in St. Mary's County this week. It is the variable oakleaf caterpillar, *Lochmaeus manteo*. It is a native caterpillar and we do have outbreaks of this pest every couple of years. The last time there was an outbreak in St. Mary's area was eight years ago. All species of oaks are attacked, but white oak (*Quercus alba*) is preferred. Other hosts include American beech (*Fagus grandifolia*), American basswood (*Tilia americana*), paper birch (*Betula papyrifera*), American elm (*Ulmus americana*), walnut (*Juglans*), boxelder (*Acer negundo*), persimmon (*Diospyros* sp.), and apple (*Malus*).



Variable oakleaf caterpillars have been causing serious damage to oaks in Southern Maryland this summer
Photo: Ben Beale, UME

Cherry Defoliation Begins

By: Stanton Gill

Dave Clement and Karen Rane told you about the cherry shot hole fungus that was active in June and July when the extended rain periods occurred. They predicted that cherry would start to prematurely defoliate. They were right – it is starting.



The cherry on the left received well timed fungicide sprays and is still looking good, whereas the cherry on the right was not treated and is heavily infected with cherry shot hole fungus
Photos: Stanton Gill, UME

Crows

By: Stanton Gill

I received a lot of emails about the crow story and several people were interested in how to deal with them. Here is one of the the legal methods of dealing with them. If you are out there and have a brilliant idea – we are open to suggestions. Let me know at Sgill@umd.edu.

From: Brenda Johnson, UME Master Gardener

I'm responding to your request in the July 27 IPM Report on non-toxic ways to deal with crows and ravens.

This past Spring I had a problem with large numbers of crows frequenting my backyard birdfeeder. There were approximately 30-40 crows showing up regularly every day. I could not run them off and they stayed as long as there was birdseed in the feeders. The owner of the birdseed shop told me of a solution he had heard about, but never tried. I tried it and it worked! I bought a couple of life-sized fake crows – the kind you typically see around Halloween. That morning when the crows were gathered around my yard and in the trees in the woods behind my house, I took ONE crow out and put it on my patio. Those crows went wild, squawking and hollering. After about 5-7 minutes, they took off and I've not seen them since. I don't know how that would work with people who have orchards, etc. but it worked in my suburban backyard. Yay!

Deer Damage Evident in Summer

By: Stanton Gill

You would think with all of the rain this season that deer would have plenty of food and leave some of the ornamental plants alone – not so in 2018. We are getting reports of deer feeding very actively on your customers' strawberry plants, squash, and pumpkins in gardens, as well as sedums and trees in the landscape. We expect this activity in the spring and fall, but generally don't see all of this activity in mid-summer.



Deer have completely denuded the lower branches of this *Cercis* 'Ruby Falls' (redbud)
Photo: Stanton Gill, UME



Deer in Monkton have fed heavily on these sedums
Photo: Mark Schlossberg, ProLawn Plus, Inc.

Mites Active in August

By: Stanton Gill

Caroline Hooks sent in an interesting mite sample this week. She had 'Autumn Flame' maples with foliage that was being heavily damaged by a mite. It is maple spider mite, *Oligonychus aceris* (Shimer), Acariformes: Tetranychidae. There is not much to do about it this late in the season and generally the damage may look bad, but the plants survive.

Steve Sullivan, Brightview, found buddleia showing heavy mite damage. Marie Rojas, IPM Scout, found spider mites feeding on the upper leaf surface of *Quercus rubra*. During the last very warm spell, before the last period of rain, mites flourished and did a lot of damage.



Mite damage on *Quercus rubra*
Photo: Marie Rojas, IPM Scout



Mite damage on buddleia
Photo: Steve Sullivan, Brightview

New Beech Disease in Ohio

By: Stanton Gill

Gabriel Popkin reports in the article, '[An Arboreal Murder Mystery: What is killing beech trees?](#)' in The Washington Post that there is a new disease called, Beech Leaf Disease, that has been detected in nine Ohio counties, Pennsylvania, New York and Canada. Small trees have been killed, and larger, older trees, will likely die as well. Scientists are very concerned that this disease will be as serious as what has impacted chestnut, elm, hemlock and ash trees. A major problem that scientists face is not knowing what is causing this leaf disease.

Powdery Mildew

With the high humidity this summer, powdery mildew continues to heavily infect landscape and nursery plants. Marie Rojas, IPM Scout, found a lot of powdery mildew on various *Prunus* species, including *Prunus serrulata* 'Snow Goose', *Prunus* 'Montmorency' and *Prunus* 'North Star'.

Tomato Problems

Jerry Brust, UME

To no one's surprise this week has seen a great number of problems pop up in tomato fields throughout our area. The first, of course, has been bacterial and fungal diseases spreading. The fungal pathogens usually can be contained with timely (as difficult as that is) fungicide applications. Bacterial spot or speck, on the other hand, can be much more difficult to control once it gets started and the weather remains wet and warm. In figure 1, on the right hand side is a row of tomatoes that had been sprayed with fungicides and copper for the last several weeks. Bacterial spot has ravaged this row. The row to the left has been sprayed with the same material plus Actigard.

Actigard is a plant activator that stimulates systemic acquired resistance, reducing the symptoms of bacterial and even fungal diseases. If you have problems with bacteria spot or speck, Actigard can help reduce symptoms (as can treating your seed with hot water treating before you plant). You must use Actigard before the problem arises in the field, it is not a rescue material. This is the year in which the use of Actigard and heat-treating seeds would have greatly helped reduce losses to bacterial and fungal diseases.

Several fields had similar symptoms as seen in figure 2, where the bottom foliage had been decimated but the top of the plant's foliage looked good. If fungicide sprays are applied as needed, the top foliage should be OK. The problem arises with the green fruit being exposed by the missing foliage. These fruits are in danger of sunburn, sunscald (fig 2) and rain check (the many, tiny concentric cracks that form on the shoulder of fruit and can expand over time (fig. 3). This is where using shade cloth (20-30% shade-inducing) would greatly reduce the chances of sunscald and rain check.



Fig. 1 Row on right had fungicides and Cu applied, row on left same fungicides and Cu plus Actigard
Photo: Jerry Brust, UME



Fig. 2 Bottom half of tomato plants have lost their foliage and expose fruit to possible sunscald or rain check
Photo: Jerry Brust, UME



Fig. 3 Exposed tomato fruit with rain check
Photo: Jerry Brust, UME

Ambrosia Beetles

We continue to receive reports of ambrosia beetle activity. Marie Rojas, IPM Scout, found some frass coming out of an alcohol baited bolt (small log) placed among *Styrax obassia*. Marie noted that there was no frass activity on the styrax trees at this time. Steve Nagy, The Care of Trees, reports that he has been finding ambrosia beetles infesting Kousa and American dogwoods in Arlington and McLean, VA.



An ambrosia beetle is producing frass on an alcohol bolt used to monitor for ambrosia beetle activity

Photo: Marie Rojas, IPM Scout



Ambrosia beetles are infesting dogwoods in Virginia this week

Photo: Steve Nagy, The Care of Trees

Leaf Blotch Disease on Horsechestnut

Marie Rojas, IPM Scout, is reporting that *Guignardia* leaf blotch is really bad on horsechestnut this year. This disease is caused by the fungus *Guignardia aesculi*. This disease commonly causes browning of the leaves especially during years with wet springs. The foliar symptoms start as water-soaked areas which turn reddish-brown to brown with yellow borders. These lesions coalesce, causing large blotches which curl the leaves. By midsummer, the whole plant can appear scorched. The fungus overwinters in fallen leaves, producing spores for new infections in spring, so removal of leaves should be thorough. As with other leaf spot diseases, infection is enhanced by moist conditions. Improve air circulation to hasten leaf drying. It is usually not of concern to the health of the tree although young trees and nursery stock may suffer due to complete defoliation.



Guignardia leaf blotch disease makes horsechestnut foliage appear scorched in August

Photo: Marie Rojas, IPM Scout

To prevent this disease, a fungicide would have to be applied at bud break and repeated through the wet period in spring which is not too practical with large trees. It requires reapplying at intervals specified on the label until conditions are no longer moist. For new plantings, select plants with resistance to *Guignardia* blotch such as bottlebrush buckeye (*Aesculus parvifolia*).

Butternut Woollyworm

Marty Adams, Bartlett Tree Experts, found butternut woollyworm sawfly larvae feeding on a butternut in Clarksville this week. This sawfly larva also feeds on black walnut and hickory. The larva has long, waxy filaments on its body to help protect it from predators. It is not considered a problem insect, but at times it can show up in large numbers in specific locations.



Butternut woollyworm sawfly are covered in waxy filaments to aid in protection from predators
Photo: Marty Adams, Bartlett Tree Experts

Snowy Tree Cricket

Steve Sullivan, Brightview, found tree cricket damage showing up on winged euonymus and cherry laurel this week. Snowy tree crickets feed on both plants and other insects. They are active at night from July through October. Paula Shrewsbury provided more detail information on tree crickets in the [July 17, 2015 IPM Report](#).



Snowy tree crickets feed on plants and cause damage, but also feed on insects
Photo: Steve Sullivan, Brightview

Slug Caterpillar

Marty Adams, Bartlett Tree Experts, found this slug caterpillar on a tri-color beech in Clarksville. Be careful handling slug caterpillars because many have urticating (stinging) hairs.



Many slug caterpillars have stinging hairs
Photo: Marty Adams, Bartlett Tree Experts

Magnolia Scale

Magnolia scale produces crawlers late in the season. Egg hatch occurs in September.

This scale only feeds on magnolia. Look for high amounts of honeydew and sooty mold on foliage at this time of year. This scale is not nearly as common as tuliptree scale which is brown and is shaped like a helmet. Generally, magnolia scale tends to be on main branches and the trunks,

whereas, tuliptree scale is found on the smaller twigs. They have different crawler periods. We are interested in knowing more specifically when the crawler period for magnolia scale occurs, so if you have it at any sites in central Maryland, please let us know at sgill@umd.edu. When crawlers are present, you can use either of the IGRs, Distance or Talus.



Tuliptree scale females are reddish brown and shaped like helmets



Magnolia scale, like tuliptree scale, produces crawlers in September
Photo: Jake Murphey

More on the Rain

Steve Sullivan, Brightview, received a photo of cherry root damage from the excessive rain this summer. Steve is also finding *Calamagrostis* with foliar disease from the excessive rains. BWI recorded 16.67 inches of rain for July making it the wettest recorded July for Baltimore.



This cherry has only dead leaves on it due the high amount of rain fall in July caused root damage

Beneficial of the Week

By: Paula Shrewsbury, UMD

Digger wasps fly over the turf in search of prey

Last week was the first report of a wasp observed flying a foot or so over turf in Howard County. Common questions that come to mind when a large wasp is seen are “*what is it?*” and “*will it sting me?*”. The wasp reported last week, and that we will likely see many more of in the upcoming few weeks, is referred to as a **Scoliid or digger** wasp. Scoliid because they are in the family Scoliidae (order Hymenoptera) and digger because they locate white grubs in the soil and “dig” down to parasitize them. Scoliid wasps are not aggressive wasps and it is highly unlikely that one will sting you. Scoliid wasps are considered beneficial because they help to suppress populations of scarab beetle white grubs and they pollinate flowers ([see video by M. Raupp, UMD](#)).

There are several species of scoliid wasps. *Scolia dubia* is the common species active in August in MD. They are ~ ¾” in length, have blue-black wings (2 pairs like most Hymenoptera) and black bodies except at the end of the abdomen which is reddish brown with two distinct yellow spots. The wasp’s body is fairly hairy. *Scolia dubia* mainly attack scarab grubs of **green June beetle and Japanese beetle**. These scarab beetles lay eggs in the soil of turf, garden beds, and nursery stock. Scarab eggs hatch and white grubs are active in the root zone into October. Scoliid wasp adults are most abundant and noticeable during August. Adult scoliid wasps feed on the nectar of a diversity of flowers providing pollination services. Scoliid wasps are seen flying several inches above turf infested with white grubs often in a figure eight pattern. This figure eight flight is a courtship dance used to communicate with and attract mates. When flying over the turf she is amazingly able to locate a grub in the soil. She then “digs” its way down to the white grub. Once the grub is located she stabs it with a paralyzing sting. This allows the female wasp to lay an egg on the underside of the paralyzed grub. The female will then construct a “cell” in the soil around the grub, the egg hatches, and the grub provides “fresh” food for the wasp larvae. Once mature, the wasp larva pupates and passes the winter in the soil. The wasp will emerge as an adult the next August. Sounds like a pretty slow and nasty death for the grub – but it is part of the circle of life.

The presence of Scoliid wasps indicates that green June beetle or Japanese beetle white grubs are present in the turf and that you should monitor the turf for grub abundance and damage. If no damage is notable, let these beautiful wasps do their thing (or sting).

Although Scoliid wasps may appear a bit intimidating when first seen over the turf, they are beneficial and can make a significant contribution towards suppressing white grub populations, and ultimately damage to turf.

Weed of the Week

Chuck Schuster, University of Maryland Extension

The season has been challenging for everyone involved in turf and landscape weed control. The spring weather made it difficult to get herbicides down in a timely manner. With the recent rains one must realize that the pre-emergent herbicides that are design to break down and degrade over time will break down and degrade faster. They are not leaching out of the soil, but with saturated conditions it has provided a challenge for them to remain active for the full duration that would normally be expected. This excess moisture also plays a role in nitrogen release from the polymer and sulfur coated urea products which release the nutrients through osmotic pressure. When the soil is saturated with moisture as it is in many areas, this causes the release rate to increase and the planned duration of nitrogen to be changed. All must be aware of these changes as it will be impacting our turf and landscape conditions and may cause some to question our selection of products.



Scoliid wasp adults fly over turf grass in search of mates or white grubs in the soil to serve as food for their young. Photo: Mike Wilder, from <http://www.ces.ncsu.edu>



Scoliid wasp adult (*Scolia dubia* shown here) feed on the nectar of a variety of flowering plants. Photo: Paula Shrewsbury, UMD

Dodder, *Cuscuta* spp., is an unusual weed that can be found in the landscape and vegetable fields. Unlike most other plants, it is a parasitic vine that is able to derive its nutrients from other plants. The seeds will germinate in the soil and the plant will live five to ten days, growing to about one foot in height. At this point, if a suitable host plant is found, it attaches to it and will continue to live by wrapping or twining around the host plant. The dodder plant then inserts haustoria, a modified advantageous root into the stem of the host plant. If the dodder plant does not find a host plant, it will die. The host plant will then supply all of the needed water, minerals and nutrients for survival. Dodder has a weak photosynthetic ability, and relies on the host plant. It can only survive a few days away from a host plant. It does not have the ability to penetrate tree bark, but will attach itself to leaves of trees and shrubs. Dodder vines continually attach to the host plant as it grows and will move to new host plants that are in close proximity. This growth habit will allow the plant to form a dense mat of yellow to reddish- brown vining stems that twine in a counterclockwise direction. The plant appears with small almost unnoticeable leaves and produces a white to pink cluster of flowers. The seeds are extremely hard and require some form of scarification before germinating in soils once temperatures reach 60 °F. Seed is often spread by human contact, plant movement and sometimes water. Seeds are viable in the soil for several years.



Dodder is a parasitic vine
Photos: Chuck Schuster, UME

Control of dodder starts with proper identification. The dodder plant may have roots for a few days after germination until it can find a host plant. The use of mechanical removal will require several attempts, as seed can germinate over a long period of time.

Biological control can be utilized using disease organisms that are known to infect and damage this plant. They include *A. alternata* and *Geotrichum candidum*, which attack field dodder (*C. pentagona*). Post emergent herbicides are not suggested as they generally will also damage the host plant. Pre-emergent herbicides can be effective if applied in the early spring where infestations have been noted in previous years. Trifluralin (Treflan) does provide good control. Watch the site for several years as seeds will remain viable for long periods of time.

Plant of the Week

By: Ginny Rosenkranz, University of Maryland Extension

The Christmas fern (*Polystichum acrostichoides*) is a very slow spreading evergreen fern that will brighten the woods all year long. It is a native that grows well in organically rich soils in partial to full shade. This fern is one that, although it likes moist, well drained soils, once established it can grow in dry soils. Christmas ferns grow in an upright fountain shape about 2 feet tall and a foot wide with thick, shiny dark green fronds. In the spring, the new silvery fronds start out tightly curled and are called fiddleheads due to their shape as they begin to uncurl. The Christmas fern is evergreen in December, even in the very cold areas, and the pinnae (what looks like a leaflet on the fern) are shaped to look like Christmas stockings. The plants spread slowly



by the scattering of their spores which are created on the underside of the pinnae in the sori that produces the spores. They are cold tolerant from USDA zones 3-9 and are reported to be both rabbit and deer resistant.



**Christmas fern grows well in partial and full shade
Photos: Ginny Rosenkranz, UME**

Degree Days (As of August 1)

Aberdeen, MD (KAPG)	2166	Annapolis Naval Academy (KNAK)	2656
Baltimore, MD (KBWI)	2398	College Park (KCGS)	2342
Dulles Airport (KIAD)	2373	Frederick (KFDK)	2311
Ft. Belvoir, VA (KDAA)	2457	Greater Cumberland Reg (KCBE)	2198
Gaithersburg (KGAI)	2297	Martinsburg, WV (KMRB)	2195
Natl Arboretum.Reagan Natl (KDCA)	2751	Salisbury/Ocean City (KSBY)	2441
St. Mary's City (St. Inigoes, MD-KNUI)	2565	Westminster (KDMW)	2454

The Weather Underground site for degree days is no longer functioning as it had been for us to get degree days. We are returning the site that we had used for several years before changing this year.

Important Note: We are now using the [Online Phenology and Degree-Day Models](#) site.

Use the following information to calculate GDD for your site: Select your location from the map

Model Category: All models Select Degree-day calculator
 Thresholds in: Fahrenheit F Lower: 50 Upper: 95
 Calculation type: simple average/growing dds Start: Jan 1

CONFERENCES

Cut Flower Operation Tour

September 12, 2018

Location: St. Mary's County (Loveville and nearby sites)

Details will be available later in the summer

New Plants for Nursery Growers

October 25, 2018

Location: Country Springs Nursery, Woodbine, MD

Details will be available later in the summer

Advanced IPM PHC Short Course

January 7-10, 2019

Location: University of Maryland, College Park, MD

Contact: Amy Yaich, Admin. Assist. II, 301-405-3911

Email: umdentomology@umd.edu

Information: <https://landscapeipmphc.weebly.com/>

Recertification credits will be posted on the website

Recertification page as awarded by participating states.

Clean Water³ - Reduce, Remediate, Recycle Conference

For Growers, Consultants, Advisors, and Educators

Monday, August 6, 2018 (8 AM to 4:15 PM)

Location: University of Maryland, College Park Edward St. Johns Learning and Teaching Center 4131 Campus Drive, College Park, MD 20742

Are you curious about the pros and cons of recycling runoff water from an agricultural operation? Do you want to learn from a National team of experts about how to reduce, remediate and use that return water on your ornamental crops? Then this one-day conference is for you.

Co-sponsored by the Maryland Nursery, Greenhouse and Landscape Association and University of Maryland Extension, this conference will be held in the spectacular Edward St. John's Learning and Teaching Center at the University of Maryland, and includes a catered lunch. The program will provide six Nutrient Management CEU's from the Maryland Department of Agriculture, as well as six Certified Crop Advisor Credits.

MNLGA Members \$30 Non-members \$45 Walk-ins 60\$

Extension Educators – Register by emailing jlc@umd.edu

Register and view the full agenda at <https://tinyurl.com/UM-WATER3>

2018 FALCAN Truck and Trailer Safety Seminar

Wednesday, August 8, 2018

8:00am Registration

8:45am - 2:45pm Seminar (Begins promptly)

Coffee, donuts, and lunch are provided!

Urbana Volunteer Fire Hall, 3602 Urbana Pike, Urbana, MD 21704

Register online at: <https://www.eventbrite.com/e/falcan-truck-trailer-safety-seminar-tickets-47112218915>

Seminar Topics Include:

- Featured speaker Deputy First Class Jason Noblick on “Driver Safety and Safety Rules for the Road”
- Requirements/inspection points for pickups, one-ton and larger trucks and trailers
- Lights, brakes, truck equipment; Fuel carrying requirements
- Permits, licenses, load covers, tie-downs, etc.
- State and Federal laws as they apply to various industries/types of loads
- Scale entry, Driver/Operator requirements
- Accident reporting, Penalty structure
- Outdoor real vehicle and trailer inspection demonstration
- Record keeping requirements: insurance, hours of service, driver and vehicle files

Who Should Attend: Contractors, Drivers, anyone who uses trucks and trailers.

Speakers: All instruction by Maryland State Police and Frederick County Sheriffs Department

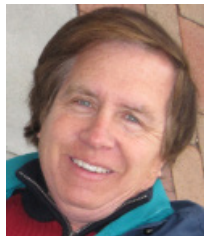
Cost: \$75.00/ individual. Limited Seating: Register now! E-mail contact: judy@alpineservices.com

Sponsored by FALCAN and Friends

2018 MDA Pesticide Recycling Program

The Maryland Department of Agriculture is offering the empty plastic pesticide container recycling program in 2018. You can view the locations and requirements in the [online brochure](#). Montgomery County is a new location this year and will also accept clean containers from Prince George's County as well as D.C., as they do not have a collection.

CONTRIBUTORS:



Stanton Gill
Extension Specialist
sgill@umd.edu
410-868-9400 (cell)



Paula Shrewsbury
Extension Specialist
pshrewsb@umd.edu



Karen Rane
Plant Pathologist
rane@umd.edu



Chuck Schuster
Extension Educator
cfs@umd.edu



David Clement
Plant Pathologist
clement@umd.edu



Andrew Ristvey
Extension Specialist
aristvey@umd.edu



Ginny Rosenkranz
Extension Educator
rosnkranz@umd.edu



Nancy Harding
Faculty Research
Assistant

Joe Roberts, Plant Pathologist (Turf)
robertsj@umd.edu

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Photos are by Suzanne Klick or Stanton Gill unless stated otherwise.

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