

Pest Management News

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Letter #3

July 31, 2020

EPA Releases Advisory Statement on Disinfectant Products Making False and Misleading COVID-19 Claims

John D. Hopkins

The U.S. Environmental Protection Agency (EPA) released an advisory statement (<https://www.epa.gov/compliance/compliance-advisory-what-you-need-know-regarding-products-making-claims-kill-coronavirus>) addressing concerns surrounding disinfectant products claiming to kill SARS-CoV-2, the virus that causes COVID-19. The advisory clarified that products making antimicrobial claims in general or specific claims regarding SARS-CoV-2 must submit detailed data to the Agency demonstrating that the product does not cause unreasonable adverse effects to human health or the environment and must be able to demonstrate efficacy against the targeted pathogen. The advisory notice was prompted by numerous complaints to the Agency about unregistered products being sold that are making false or misleading claims regarding SARS-CoV-2. The statement further advised that EPA is coordinating with the U.S. Department of Justice and other federal partners to bring the full force of the law against those selling or otherwise distributing violative products.



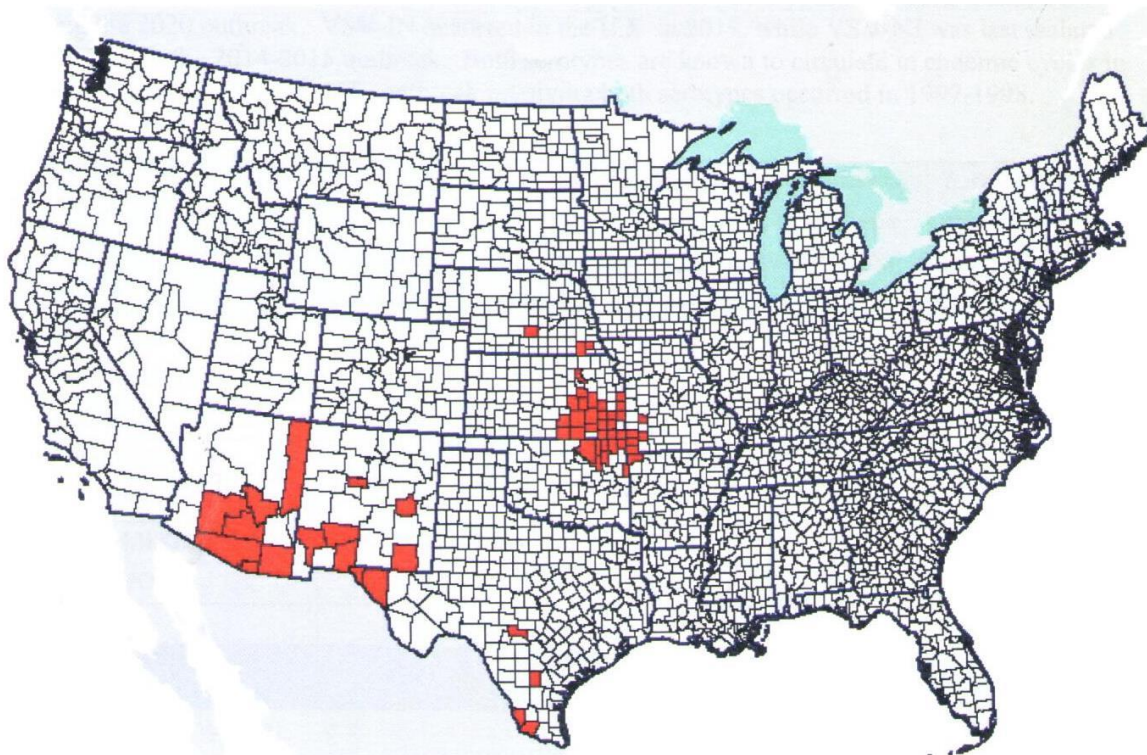
To view EPA's list of registered disinfectants for use against SARS-CoV-2, the virus that causes the novel coronavirus (COVID-19) click the following link (<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19>).

Vesicular stomatitis

Kelly Loftin

Vesicular stomatitis primarily affects horses and cattle but can impact goats, sheep, swine, alpacas and llamas. Humans can also become infected through handling infected animals and surfaces. In recent history, outbreaks were more common in western and southwestern states. However, in 2020, it has been confirmed as far east as Arkansas and Missouri. The Arkansas cases were confirmed in

Benton County in mid-July and included three horses on the same premise. To date, 256 premises in eight states had infected horses (Arizona, Arkansas, Kansas, Missouri, Nebraska, New Mexico, Oklahoma and Texas). Ten premises in Kansas and Texas had infected cattle and one premise in Missouri had infected cattle and horses.



Counties with premises quarantined for vesicular stomatitis virus in 2020. Source: 2020 Vesicular Stomatitis Virus (VSV) Situation Report – July 2, 2020, USDA-APHIS, 07/27/2020.

Vesicular stomatitis is a highly infectious viral disease caused by the vesicular stomatitis virus (VSV), an RNA arbovirus in the family Rhabdoviridae. This virus causes an economically significant disease in horses, cattle and swine. Although VSV infections do not result in high mortality rates, negative economic impacts to livestock producers can be significant. Losses include decreased animal production and restrictions on animal movement intended to control disease spread. In addition, VSV causes alarm because it produces symptoms very similar to hoof and mouth disease. VSV infections result in vesicular lesions of the gums, tongue, naso-oral mucosa, teats and coronary bands. The incubation period is from two to eight days. Symptoms begin with excessive salivation and blister-like lesions on the on the inner surface of the gums, lips, tongue and dental pad. The same type of lesion may also form on the lips, nostrils, vulva, foreskin, teats and coronary bands. Blisters will break open causing discomfort which results in decreased food and water intake leading to significant weight loss.

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VSV lesions on the gums and inner lip of a horse. Photo by Fred G. Bourgeois, USDA, APHIS.



VSV lesion on the coronary band of a horse. Photo by Dr. Greg Farrand, DVM.

Biting flies are the key players in transmission of VSV and outbreaks are associated with peak biting fly activity. Biological insect vectors of NSV include black flies (Family Simuliidae), sand flies (Family Psychodidae) and biting midges (Family Ceratopogonidae). In addition, other biting flies have been studied as potential vectors of VSV. Laboratory studies suggest horse flies, deer flies, stable flies and mosquitoes could be potential secondary vectors of VSV. VSV has also been isolated from non-biting flies such as house flies and eye gnats, but their potential role in transmission of the virus is unknown. During outbreaks, VSV can spread rapidly throughout the herd by direct contact with infected animals. Virus-laden saliva and exudates from blisters contaminate facilities, feed and water vessels which allows for animal to animal transmission; or animal to fomite to animal transmission.

Vesicular stomatitis is a reportable disease and its presence within a county results in travel restrictions. Currently, one premise in Benton County is under quarantine for VSV. Arkansas' current movement restrictions provided by the Arkansas Department of Agriculture provided below. Because travel restriction may change daily, check the Arkansas Department of Agriculture's Livestock and Poultry website for updates at <https://www.agriculture.arkansas.gov/livestock-poultry/>. When transporting horses to other states you should check with their agriculture department to determine if any restrictions are in place

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Within Arkansas –
MOVEMENT RESTRICTIONS may change daily
due to emerging disease detection in various
counties.

No hoofed animal may leave the premise of origin if pastured, housed, or has indirect/direct contact during the previous 30 days to an enclosure or premises currently quarantined for Vesicular Stomatitis virus (VSV).

Vesicular Stomatitis restrictions require all Arkansas based Equine (horses, donkeys, mules, etc.) originating from a premises within the County or Adjacent County of any VSV quarantined facility to be:

1. **Examined** by an Category II / USDA Accredited veterinarian; and
2. Be declared free from signs or lesions of Vesicular Stomatitis virus (VSV) **within 5 days prior to movement within or travel through Arkansas**; and
3. Be accompanied by a **Certificate of Veterinary Inspection (CVI)** with date of veterinarian's examination recorded. Fill out all blank spaces (add name of County to the CVI).
4. **Entry Permit number** should be obtained for the movement to any other location in Arkansas or out-of-state. Record the **Entry Permit number on the CVI**.
5. The following statement is to be added to the CVI and signed by the Attending Veterinarian with that veterinarian's USDA Accreditation number noted on the CVI (near signature).

" All animals individually identified and noted on this Certificate of Veterinary Inspection have been examined by me and found to be free from signs or lesions of vesicular stomatitis virus infection. The owner of the animals listed has attested to me that these animals have not had direct contact or indirect exposure to any premise quarantined or suspect for presence of vesicular stomatitis within the past 30 days. "

If you have questions, contact the Arkansas State Veterinarian.

Arkansas Department of Agriculture | agriculture.arkansas.gov

Many insecticides and repellents are labeled to protect horses from biting flies. Formulations include pour-ons, insecticide wipes, pastes, roll-ons, spot-ons, dusts, ready to use sprays and spray concentrates. The majority of horse specific products contain one of the pyrethroids such as permethrin, zeta-cypermethrin, cypermethrin and the botanical insecticide/repellent pyrethrins. A few

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will also contain the synergist piperonyl butoxide. Many of the ready to use sprays are effective but may require at least daily application especially if the horse are worked (sweating) or bathed. Ready to use sprays that contain a pyrethroid plus piperonyl butoxide tend to last longer. In situations, where the animal is not available to treat daily, consider a spot-on formulations that contains ~45% permethrin or a ready to use pour-on containing permethrin and piperonyl butoxide. Most pour-on formulations can also be wiped on with a cloth or a painter's mitt. For a listing of insecticides labeled to control biting flies on horses see the "MP 144 - 2020 Insecticide Recommendations for Arkansas" at <https://www.uaex.edu/publications/mp-144.aspx>. Non-chemical methods such as frequent removal of manure and manure/wasted hay mixtures will limit house and biting stable fly breeding areas. Maintaining good weed control in areas where animals congregate will reduce fly resting areas. Repair of leaky water troughs in areas where animals congregate can reduce breeding areas for some biting fly species.

Common sense practices and fly control should also be practiced at rodeos, horse shows and other equine events, especially at functions where horses originate from other regions of the state or country. While attending equine events, horses should be kept separated. Don't share tack, feeding/watering vessels or grooming equipment. Disinfect tack and other equipment before and after the event. Use repellents/insecticides to keep biting flies at bay. Keep your hands off other horses and avoid allowing other to handle your horses. People can become infected with VSV so frequently wash your hands or use hand sanitizer. After returning home from the event, monitor horses for any signs of VSV. Consider segregating your traveling horse from other hoofed animals for a week after returning, especially during a widespread outbreak.

Dealing with Deer in Yards and Gardens

Becky McPeake

The Pest Crew recently received a question from a homeowner living in a city. "Is there any research on best repellant for deer? Other than a fence (impractical) what are the best repellents on the market?" Following is my typically-lengthy response.

Studies about repellents on free-ranging deer are difficult because of a number of variables, including deer pressure (number of deer) and availability of other food sources, which varies by season, weather conditions, etc. Given those limitations, most studies indicate egg-based products and protein-based products are slightly more effective than nothing at all. In other words, when deer are hungry, they are likely to eat their preferred foods, regardless. If using an egg-based product, the one having the highest percentage of egg will be more effective; however, it will also smell worse. The egg is actually a putrid egg odor, which also repels people. So, manufacturers offer diluted products which are less offensive, but also less effective.



Demonstration trial in a backyard in Little Rock, comparing deer repellents. Photo by Becky McPeake

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One of the newer repellents on the market works systemically. A tablet is placed next to the growing plant, and the plant uptakes a bitter taste into the leaves. I have not seen scientific studies about its effectiveness. We have an ongoing demonstration at the Arkansas 4-H Center, which I need to check on.

It is suggested that repellents be used along with other means, such as fencing and frightening devices, to dissuade deer (also called an “integrated pest management strategy”). You mentioned fencing wasn’t allowable, but putting some less visible “bird netting” or “deer netting” over selected plants may help. The netting needs to be applied carefully so as not to catch birds or lizards. It needs to be very tight so birds will bounce off of it, and a larger square size so lizards won’t get trapped inside the small square and get tangled.

There are a number of frightening devices marketed, but I’m unaware of scientific evidence about their effectiveness. One of them is a motion-detecting water sprinkler, and another is the Havahart® Electronic Deer Repellent, which is basically a stake with a shocker. We just completed our first-season field demonstration trial using the stake, but COVID19 is preventing us from completing our data analysis. Besides the commercial products, people also use aluminum pie pans, streamers, old CDs, even plastic milk cartons half filled with water, which flashes in sunlight and moonlight. The difficulty with frightening devices is habituation, or deer becoming accustomed to the frightening device and not fleeing. Researchers recommend changing the type of frightening device often to prevent this from occurring. There isn’t any definite length of time in the literature for deer. For birds, it is as short as 3-14 days.



Deer approaching a Havahart® Electronic Deer Repellent at a field demonstration. Photo by Becky McPeake

FYI, it is also suggested that population reduction via hunting can help in locations where allowable. It will not eliminate plant damage, but fewer deer can help reduce plant damage. In urban areas, deer-car collisions and tick diseases (which ticks are carried by deer) can be an issue. There are several urban archery hunts in Arkansas in which hunters pass a proficiency test and abide by strict rules.

The bottom line is, the more impediments you add, the more likely deer will go somewhere else, or be less of a problem. The integrated pest management strategy for deer is: repellents and frightening devices, fencing, habitat reduction, and population reduction. The more of these you can do, the less risk for plant damage - in theory!

Blackberry Orange Felt / Orange Cane Blotch

Sherrie E. Smith

Blackberry Orange Felt or Orange Cane Blotch is caused by the alga *Cephaleuros virescens*. This organism has been reported as a pathogen of nearly 300 species of plants, causing stem spots or lesions as symptoms on 80 of these plant species. Initially whitish-yellow disk-shaped spots appear on the canes, usually more prevalent near the base of the canes. Later in the season, the spots become orange and velvety in appearance. The orange pigmentation results from the production of

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reddish pigments by mature spore producing structures of the alga. Under wet humid conditions, the spots often merge, nearly covering the entire cane. Orange felt may be seen on the canes from spring to fall, but is more prevalent throughout summer and fall. Although the lesions themselves are superficial, they open the canes to infection by pathogenic fungi such as *Botryosphaeria*. The first line of defense in preventing or treating Orange felt is to plant only in well-drained fields. Old floricanes should be removed immediately after harvest. Blackberries planted on plastic with drip irrigation have been shown to have fewer problems with Orange felt. Since stressed plants are more susceptible to infection, care should be taken to ensure optimum growing conditions, with attention paid to pH and nutrients. Copper fungicides have been known to provide some control. Read labels carefully.



Blackberry Orange Felt, *Cephaeleuros virescens* Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blackberry White Drupelet

Sherrie E. Smith

The Plant Health Clinic has received several complaints about discolored fruit in blackberries. White drupelet is a tan to white discoloration of individual drupelets on blackberry or raspberry fruits. This condition is caused by UV radiation and appears when there has been an abrupt increase in temperatures accompanied by a drop in humidity, especially when wind is also present. Hot, dry air allows more direct UV rays to reach the fruit. Most varieties of blackberry and raspberry are susceptible to White drupelet. However, Apache and Kiowa, and the Caroline red raspberry seem to get the disorder more frequently. While White drupelet does not make the fruit uneatable, it makes it unmarketable.



White Drupelet-abiotic. Photo by Richard Klerk, University of Arkansas Cooperative Extension

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Managing Insect Pests in Pumpkins

Aaron Cato

We're coming in to August and the pumpkins across the state are mostly a few weeks along. Based on the calls we've gotten in the last couple of weeks, we also have many of our usual insect pests out in full force. Below you will find some guidance when it comes to some of our more serious pests in pumpkins. Consult the Southeastern vegetable IPM handbook <https://bit.ly/3iQa395> for more recommendations. If you have any questions about symptomology on your pumpkins, contact your county agent to get samples sent to Sherri Sanders at the Plant Diagnostic Lab for identification.

Insect Management: We have seen a lot of Cucumber beetles already this year beginning around planting and they don't seem to have let up yet, with some growers already making 4-5 insecticide applications to achieve only moderate suppression. Squash bug is also starting to come into fields with many growers and agents reporting them beginning to establish mainly on field edges. These two pests are generally considered the two most serious pumpkin pests in Arkansas as they transmit bacterial diseases. These diseases are well known by most of our growers and typically lead to many unnecessary over-sprays, however, both of these pests are very easy to scout for and these diseases can be prevented if insecticides are on-time. Outside of our disease-causing pests, pickle worm and squash vine borer have also been known to be very serious in Arkansas but will not be the focus of this article. Those with historic issues with either of those pests should rely on diamide (Coragen, IRAC 28) based products to prevent flaring aphids.

Cucumber Beetle Management: Spotted and striped cucumber beetles are known to be an issue in Arkansas and can transmit bacteria that can cause bacterial wilt (Fig. 1 and 2). Adults feed on the foliage, flowers, and on the surface of the fruit, and plants are susceptible to wilt transmission as soon



Fig. 1 – Spotted and striped cucumber beetles. Photo courtesy of Ric Bessin, University of Kentucky Entomology.



Fig. 2 – Bacterial wilt disease symptomology.

as they emerge or are transplanted. Younger plants are most susceptible to the disease, therefore scouting twice a week is necessary early on. An insecticide application should be made when 1 cucumber beetle is found every few plants. Cucumber beetles are known to migrate into fields quickly, which warrants frequent scouting. This is especially important after an insecticide application is made, as re-infestation at densities above threshold is possible in only a few days.

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Many products can be used to control cucumber beetles, but considering that most can flare aphids, scout to make sure applications are necessary. Effective insecticides include pyrethroids (bifenthrin, lambda cyhalothrin, etc.), neonicotinoids (imidacloprid, acetamiprid, dinotefuran, thiamethoxam, and clothianidin), carbamates (carbaryl), and organophosphates (malathion). Neonicotinoids such as imidacloprid and dinotefuran can also be applied as drip applications and may provide some aphid and squash bug suppression.

Squash Bugs: Like cucumber beetles, squash bugs are an issue as soon as plants are in the field and can vector bacteria that cause cucurbit yellow vine disease, also known as yellow vine decline (Fig. 3, 4, and 5). Smaller fields are most susceptible, and numbers generally are the highest on field edges and during fruit-set and bloom. Fields should be monitored at least once a week, and monitoring should be focused on the underside of leaves, at the base of plant, and under fallen leaves where squash bugs often concentrate. Adults are extremely hard to control and applications should target young nymphs or eggs. Apply an insecticide when egg masses or nymphs are observed on every few plants. Effective insecticides include pyrethroids (bifenthrin, lambda cyhalothrin, etc.), neonicotinoids (imidacloprid, acetamiprid, dinotefuran, thiamethoxam, and clothianidin), and carbamates (methomyl). Neonicotinoids such as dinotefuran and imidacloprid can also be applied as drip applications and may provide some aphid and cucumber beetle suppression.



Fig. 3 – Squash bug adult.



Fig. 4 – Squash bug eggs.



Fig. 5 – Yellow vine disease symptoms.

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Aphids: Melon aphids are considered a secondary pest in Arkansas pumpkin production. Insecticides such as pyrethroids, pyrethrins, or organophosphates that are used to control cucumber beetles, squash bugs, and other pests, kill the natural enemies that usually keep aphids suppressed. If you have used broad-spectrum insecticides in your pumpkin patch this year, including many organic options, then you need to be scouting for aphids (Fig. 6). There are many product options for aphid control such as acetamiprid (Assail, Tristar, and Anarchy), flupyradifurone (Sivanto Prime), and Flonicamid (Beleaf). Acetamiprid or flupyradifurone are likely going to be the easiest products to find locally.

Aphid control is necessary when populations are building on every few plants and the natural enemy complex was collapsed from other, recent insecticide sprays.



Fig. 6 – Melon Aphids on the underside of pumpkin leaves following a pyrethroid spray.

Management Plan: Many of the insecticides mentioned here will control both cucumber beetles and squash bugs, and in most production areas of the state, these pests are likely to both be present. Due to the risk of flaring melon aphids, a good strategy is to start early with a drip application of imidacloprid (Admire Pro) or dinotefuran (Venom or Scorpion) to prevent flaring aphids. These products usually give around 3 weeks of suppression that should help protect from bacterial wilt or yellow-vine disease. Foliar applications of pyrethroids are usually relied on for cucumber beetle and squash bug suppression, but it is important to rotate in other *Modes of Action* like carbamates, neonicotinoids, or organophosphates. Repeated use of one chemistry is likely to lead to lowered success of control. This is especially important when considering squash bugs, as it is difficult to suppress this pest once infestations are excessive. If you have any questions give me a call at 479-249-7352.

What Weed Is It?

Tommy Butts



This month's Weed Science contest is What Weed Is It? This weed is an erect, annual herb that can be found in fields, pastures, roadsides, and waste sites (Pictures 1, 2, and 3). This weed is a part of the Malvaceae (mallow) family of plants, similar to cotton, which contributes to its difficulty to control in this crop. One distinguishing characteristic for this weed species is the distinctive shape of the cotyledons; one is rounded and one is heart-shaped (Picture 1). This weed can grow up to 3 feet tall with very hairy stems and hairs on both sides of leaves. Leaf margins are irregularly toothed, 3-lobed, and have an alternate distribution (Picture 3). Additionally, leaves often have purplish veins. This weed species produces a star-shaped seed capsule in which each capsule contains 10 to 20 kidney-shaped seeds. All pictures were taken in Mississippi County.



Picture 1.



Picture 2.

Control of this weed can be accomplished through multiple means in an integrated management approach. Narrow row spacing promoting quicker crop canopy closure has shown to be effective at suppressing this weed species. Burying seeds with a deep tillage event can also be beneficial at reducing the viable seed available for germination; however, research has shown 30% of the buried seed from this weed species can remain viable even after being buried for 5.5 years.

Control is most difficult in broadleaf crops, especially cotton. However, there are several herbicide options available including Staple, Enlist One, and glyphosate + Envoke in cotton; Python, Classic, metribuzin, First Rate, and Basagran in soybean; and Cadre in peanut.



Picture 3.

Be the first to email me at tbutts@uaex.edu with the correct complete common name and win a prize!

To The Readers

Please offer any suggestions for Urban or Livestock Integrated Pest Management topics (insect pests, plant diseases, weed problems, wildlife control problems) that you would like to see – **OR** – feel free to submit an article that you have prepared. Kelly and I will be glad to include it (subject to editing). Send feedback to jhopkins@uaex.edu or kloftin@uaex.edu

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