

Your Home ... External Care & Maintenance

Artillery Fungus Black Spots



PennState Extension

We have these small, black spots that look like specks of tar, all over our white, vinyl siding of our house.

It's on the porch, my windows, but it is worse on the siding. It goes all the way up to my second-story windows, and is even under my soffit and on my gutters. What do you think it is?



Sounds like you have the infamous "*artillery fungus*".

See image above for what the spores of the artillery fungus look like on house siding.

I think I have seen some spots on my car. Does the artillery fungus also get on cars?

Yes, this is common on the sides of automobiles when cars are parked near mulched areas that are infested with the artillery fungus. It is especially noticeable on white sports cars - at least these are the owners that complain the most.

In fact, we have had complaints where private companies have artillery spores on 50-100 cars in their parking lots. The next question asked is, "How do we remove the spots from the sides of cars?"

We do not know, but some suggestions have included: power washing if the artillery fungus spots are very new and paint/wax on the cars is also new and shiny; automotive-paint rubbing compounds; and removal (if there are only a few spots) with the edge of a credit card. However, you must be very careful not to damage the car's finish. See some car owners' attempts at removing the spots from cars at the end of this section. These are not recommendations!

Why do light-colored houses and cars have more problems than darker cars and houses?

In nature, the artillery fungus shoots its spores towards sunlight. In the absence of direct sunlight, it shoots the spores at highly reflective surfaces, such as white house siding. And, of course, the black spots show up better on white surfaces, so they are noticed more easily.

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Are those spots alive? Will they hurt my house, like eat holes in my siding?

Yes, they are alive, but not in the sense that they can hurt your siding. They are dormant, or sleeping, and pose no threat to the siding other than staining it.

How do I get the artillery fungus off my house siding?

The spore masses of the artillery fungus stick like super-glue. We have not found a good, efficient way to get them off without leaving a stain or damaging the siding, especially on old dry siding. Power washing may work on brand new (only) vinyl siding that still has a shiny, oily, sheen.

Each spore mass can be physically scraped, "steel-wooled", or sanded off. Then the stain might be removed with an ink eraser, but this is a pain, literally.

Beware of any cleansers that have claims that sound "too good to be true", with regards to removing the artillery fungus. It is likely that they are, in fact, too good to be true.

So, what is the final, ultimate solution to my problem?

Take out all of the infested mulch (usually just around the foundation - not out in the yard), bag it in a biodegradable bag, and take it to a landfill. Then put down a layer of black plastic, and overlay it with stone or an artificial (non-organic) mulch.

But, I don't like stone - it's so cold! I want to stay organic, and, like, use, like some sort of wood/bark mulch. Yet I can't stand the artillery fungus. It's driving me bonkers. What should I do?? I'm at my wit's end.

Well, then, you have to learn to live with the problem. That is, you cannot beat the artillery fungus (at this time), so manage it. Use mulches that the artillery fungus doesn't like, such as large pine bark nuggets. Then, put down a fresh layer of mulch each year - we have no evidence for this, but yearly applications of layers of mulch really seem to inhibit the artillery fungus.

Another possibility, but one we haven't investigated, is to use ground cover such as ivy, periwinkle, or pachysandra *in place of the mulch* around your foundation. It seems likely that the artillery fungus would not grow well under the canopy (on the fallen dead leaves) of such ground-cover plants. Or, establish lawn right up to your foundation. An artificial mulch made of plastic, old tires, etc. should work, but we have not tested it.

Do you ever get suggestions about removal of spores from surfaces like cars or houses, and have you tried any of them?

Yes, I have received many suggestions regarding removal of spores from cars or houses. I have not tried any of them. I have listed a few suggestions from readers below, but I emphasize that these have not been tested are not my recommendations.

Note that most involve abrasives, and a lot of "elbow grease", especially if the spots have been on the surface for some time! So, one is really just scraping off the spots, which may land back in the mulch... Having said that, please let me know if any of these actually do work! Again, these are not my recommendations.

Are there any registered fungicides that will kill the fungus?

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There are no fungicides labeled for use against the artillery fungus in landscape mulch. Bleach, if it worked, would be very temporary, since it leaches out with each rain. We have tested many different fungicides in the laboratory, but have to take the experiment to the field.

Artillery Fungus in Mulch

If infested material is used for mulch, the artillery fungus may be already in the mulch when the load of mulch arrives.



How did the artillery fungus get in my mulch? My neighbors do not have it - only me!

This is extremely difficult to answer. The artillery fungus commonly occurs on dead trees, dead branches, rotting wood, etc. throughout the Northeast. I have seen it in the forest on standing dead trees and limbs on the ground, as well on wood in mulch-producing yards. If infested material is used for mulch, the artillery fungus may be already in the mulch when the load of mulch arrives at a job site, and may then grow rapidly along your foundation during cool moist conditions. However, this is likely a problem only when mulch is not composted, which subjects the mulch to higher internal temperatures.

Or spore masses may already be present at a site on old mulch, previously infested plant leaves, rabbit or deer droppings, decaying leaves, and grass. These existing spores may immediately infest new applications of mulch. In some cases, the spores also may be transported for very short distances via wind from adjacent infested sources. Spores may also be brought to the site on infested nursery plants, by being stuck to the undersurface of leaves, if the nursery also had an artillery fungus problem. When the leaves fall off onto the mulch the attached spores inoculate the mulch... here we go again!

People can also spread the artillery fungus in various ways. Some homeowners make the mistake of sanding, scraping, or otherwise removing the spore masses from the sides of their houses, and letting them fall onto their foundation mulch. Such spores are dormant, but very much alive. They germinate and infest the mulch.

So what mulch(es) appear to be best?

We tested 27 mulches in the field, and found that some supported more artillery fungus than others. In one study, the most resistant mulch was large pine bark nuggets. The large bark nuggets stay hard and dry, conditions that the artillery fungus does not like. Cypress mulch also performed well, as it probably contains some anti-fungal, anti-decay chemical(s). However, there may be some environmental, non-sustainable reasons for not using cypress.

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An article from the *Journal of Environmental Horticulture* entitled "Artillery Fungus Sporulation on 27 Different Mulches- A Field Study" has some results.

How about artificially colored mulches?

We have tested mulches of various colors, as well as the chemicals themselves that are used to color the mulches. The chemicals in our tests, at the concentrations used, did not inhibit the artillery fungus.

Colored mulches appeared to very slightly, but only *temporarily*, inhibit the artillery fungus. We attribute this to the colored mulches being slightly more water repellent and therefore remain drier than the non-colored mulches, at least at first. As the colors faded due to rain and sunlight, the artillery fungus moved right.

Should I put down new mulch each year?

Interestingly, homeowners that put down a new layer of mulch each year generally have a lesser artillery fungus problem. But, we have not confirmed this practice. But it does seem to work, if you don't miss a year!

How about composted mulch? Is it better or worse?

You really need to ask this question to a compost expert, but most good mulch today is composted to some degree.

What if I just paint over the spores on my wood mulch?

That will probably seal them in. It may solve your problem, but will give a pebbly appearance to your paint job. Each repainting will seal in the artillery fungus even more.

You mean that the artillery fungus can come in on plants and shrubbery that I am planting along my foundation?

Yes, this is possible, but only if the nursery had an artillery fungus problem in its pots or beds. But, this does not appear to be very common in my experience.

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What are these tar-like spots, and what can I use to remove them?

Question ... *I have black spots all over my vinyl siding—thousands of them, about the size of a ballpoint pen tip. They are hard, and when you pick them off, they leave a small brown stain. They are even as high up as my gutters. It seems they are only on the siding above my mulch beds. I have heard that the mulch can spit its coloring out and also that it could be mold from the mulch. I have tried house and siding cleaner and a pressure washer, to no avail. I also tried Krud Kutter and a Scotch-Brite sponge, which works, but it would take five years to clean the siding that way.*

Answer ... *The black tar-like spots that are all over your vinyl siding are more than likely a fungus called ... *Sphaerobolus stellatus*, better known as artillery, or shotgun fungus.*

Although it's most often found on the east coast, it can grow anywhere and especially thrives in areas that have cool, damp Springs, or rainy Fall weather conditions.

As for where it grows or how it found your siding, **artillery fungus** is a notorious wood-dwelling fungus that's usually found growing in wood-based mulches, especially those that are a combination of bark and hardwood. This may be where it's stemming from in your yard as you mention that the fungus seems to be limited to growing on the siding closest to your mulch beds. This fungus can grow on multiple surfaces including wood siding, fences, decks, and cars.

Artillery fungus is difficult to get rid of because of its sticky properties. That's why, if it's at all possible, it's best to wash the fungus away when the spores have freshly landed, which is normally when the weather is cool and damp and the temperatures are between 50 and 68 degrees Fahrenheit.

How to Remove Artillery Fungus

What it really comes down to elbow grease. Anything safe for your siding can be used to help loosen it up a bit, but it truly comes down to scrubbing by hand to get it all off.

That being said, what we can do other than tell you to keep doing what you're doing, is to offer you some suggestions that others say have worked for them in the past.

Most Common Recommendations for Removal

One thing almost every suggestion included was to keep the surface wet while you cleaned it. Use a scraper or putty knife to remove the fungus before trying to scrub it, and then once you've picked a cleaner, allow it soak into the surface from a few minutes, up to a few hours before you begin trying to scrub it away. No matter which you try, should you try any, just be sure that you test it first by trying it in a place on the siding that won't matter should it be discolored, as it likely will with most of these recommendations.

Bleach - The most common trial and error method in removing artillery fungus is bleach, however, it doesn't always work and seems to be a temporary solution. Also, it still requires a lot of scrubbing. Keep in mind that it might also bleach the paint on the siding. Do a test spot somewhere inconspicuous.

Peroxide - Hydrogen peroxide has also been said to work, especially at higher strengths. Apply it, allow it to bubble, and then brush it off with a wet scrub brush or sponge.

Mouthwash - Mouthwash is something many swear by for cleaning artillery fungus off of vinyl siding, especially mint-laced varieties. As with bleach, saturate the area with the mouthwash and allow it to penetrate before scrubbing it off. Others have tried a combination of bleach and mouthwash; just be careful mixing any chemicals together.

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Melamine Foam - Better known as the *Mr. Clean Magic Eraser*, melamine foam pads work best after the area is sprayed with one of the cleaners above and allowed to soak into the siding for a few hours. Then, scrub with the pad to erase the remaining spores. This method may be expensive depending on the size of the space you're working on, since Magic Erasers tend to fall apart rather quickly. Note that the bleach seems to get rid of the actual fungus, while the Magic Eraser removes the stain left behind by it.

How to Prevent Artillery Fungus



To prevent the regrowth of fungi on your siding once you remove what's already there, you will need to *use mulches that are non-wood based*. If the mulch is being used purely for landscaping and visual appeal, some alternatives include stone products like pea gravel, lava rock, or crushed stone.

Using **compost** with no wood in it is also a good alternative. Studies have shown that the Artillery fungus spores did not grow when only compost was used.

If you wish to keep the wood-based mulch, you can try to keep the fungus at bay by adding a layer of fungus-resistant mulch such as cypress or cedar nuggets to keep the fungus from spreading. Raking the mulch often during the moist months to expose the fungi to the dry air can keep the spores from spreading.

Keep in mind that fungus-resistant mulch is a bit of a misnomer because, although they're labeled as such, these are not completely anti-fungal and will not prevent fungal growth entirely. Using wood mulch will always carry a high risk of having artillery fungus.

Getting rid of the fungus is possible, but it's not going to be easy. Find a good cleaner that works for you and begin scrubbing. Or, better yet, hire someone to do the scrubbing for you.