



# Technical Bulletin #01

## DEALING WITH ARTILLERY FUNGUS



This photo is of the artillery fungus "mushroom" prior to producing spores. As the body matures, it opens like a flower, revealing a mass of spores in the middle

### 1. Introduction:

Also sometimes called "shotgun fungus," artillery fungus is a meddlesome problem for homeowners (and window cleaners) everywhere. According to The Pennsylvania State University College of Agricultural Science, the problem has caused more than \$1 million in homeowner damage claims in Pennsylvania alone. Commonly found in wood-based landscape mulch, artillery fungus prefers sunny, damp areas and is so small that even experts have trouble finding it in mulch. It gives the wood a bleached appearance, according to Larry Kuhns, professor of horticulture at Penn State.

#### What is artillery fungus?

The artillery fungus "mushroom" is a small cream or orange-brown cup containing a black, round mass of spores. Spore masses are produced when temperatures are between 50 and 68 degrees Fahrenheit. The fruiting body points itself toward strong light sources such as sun-reflecting glass and light-colored buildings and cars. As the body matures, it opens like a flower, revealing a mass of spores in the middle.

A few hours after opening, the inner cup inverts and violently ejects the spore mass, shooting spores as far as 20 feet. The spore masses,

sometimes mistaken for insect droppings, adhere to any surfaces they contact.

### 2. Problem:

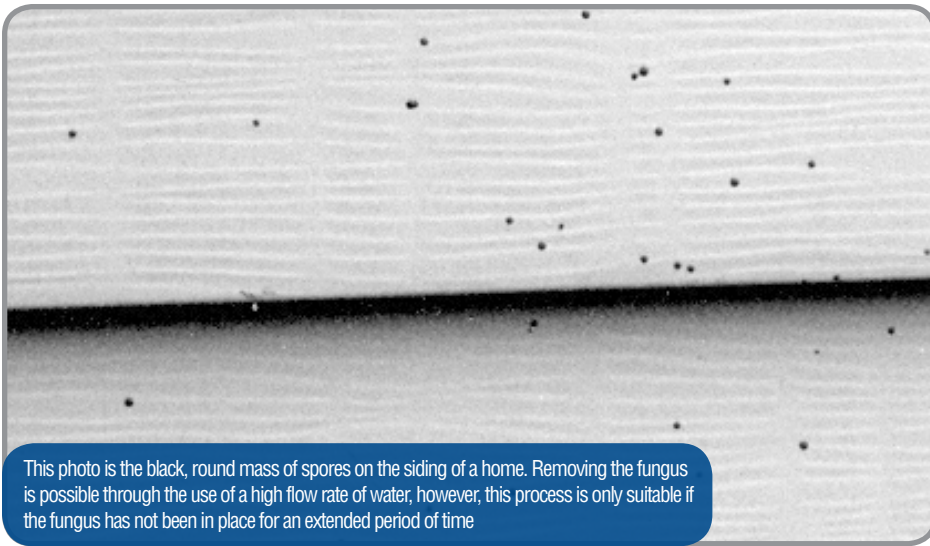
The spores cannot be removed without damaging or staining the surface. Kuhns, along with Don Davis, professor of plant pathology at Penn State, and Beth Brantley, a graduate student at the time, spent five years studying how to deal with the effects of artillery fungus and ways to remove it. The findings were discouraging. "The only product that worked fairly well back then has been taken off the market. I haven't tested any other products since then," Kuhns said.

### 3. Solutions:

Using the methods suggested by the experts and educating customers as to the cause of the artillery fungus staining are the best steps toward providing useful service to your customers.

On windows, the raised black spot should be scraped off with a razor blade scraper, leaving a light grey residue. A heavy-duty water-based product should be used to clean the rest off as good as possible. Oil-based products do not work.





This photo is the black, round mass of spores on the siding of a home. Removing the fungus is possible through the use of a high flow rate of water, however, this process is only suitable if the fungus has not been in place for an extended period of time

Keep in mind that if you are dealing with **heat-treated glass** and are required to use a scraper to remove the fungus, you should get a waiver signed by the customer to protect you in case the glass is riddled with **fabricating debris**.

Extreme care should be used on aluminum siding and car paint since the finish may be damaged. Bret A. Lambdin suggests removing the fungus is possible through the use of a high flow rate of water (at least 5.5 g.p.m.) at 3000 psi, with hot water, at 200 degrees Fahrenheit, however, this process is only suitable if the fungus has not been in place for an extended period of time

#### 4. Special Considerations:

Cornell University makes the point that most homeowners' insurance won't cover damage caused by mold, so clueing customers in who have wood mulch around their homes and pointing them to resources about the problem might save you headaches in trying to clean up the mess later.

#### 5. Additional Resource listing

- Don Davis, professor of plant pathology at Pennsylvania State University, has posted a FAQ page about artillery fungus. He also includes a substantial list of "home remedies" offered by his readers that are not recommended nor have been

tested. Visit his site at [www.personal.psu.edu/faculty/d/d/ddd2/](http://www.personal.psu.edu/faculty/d/d/ddd2/).

- Bret A. Lambdin's article about artillery fungus can be found on Delco Cleaning Systems of Fort Worth's website at <http://www.dcs1.com/articles/shotgun.html>.
- The Mississippi State University Extension Service has an article about the fungus at <http://msucare.com/newsletters/pests/infobytes/19970407.htm>
- West Virginia University's Extension Service has an article about several landscape mulch fungi based on the research by Larry Kuhns and his team. Find it at <http://www.wvu.edu/~agexten/ipm/disease/mulchfun.htm>
- The Ohio State University Extension also offers a fact sheet on nuisance fungi that includes helpful pictures to identify the culprits. Find it at <http://ohioline.osu.edu/hyg-fact/3000/3304.html>
- Cornell University's Plant Disease Diagnostic Clinic also has a fact sheet with photos. Find it at <http://plantclinic.cornell.edu/FactSheets/artfungus/artilleryfungus.htm>

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