



## Bug-Wise

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**Physical Exclusion: The Best Treatment for Home-Invading Insect Pests:** Mississippi homes are subject to invasion by a variety of insects, spiders, and other arthropods. These occasional home invaders can be divided into two groups. Warm weather invaders are creatures that enter buildings during the warmer months, not because they want to be inside, but because they just happened to wander under the door seal or through some other crack or crevice. Cool weather invaders are insects that enter buildings in the fall because they are actively seeking a warm place to spend the winter. The following table lists some common members of each group.

### Common Home-invading Arthropods

Pest	Situation
<b>Warm Weather Invaders</b>	
Wolf Spiders	Most lawns are home to thousands of wolf spiders. Although wolf spiders do not live or breed indoors, they often wander into buildings under poorly sealed doors.
Ground Beetles	These beneficial/predatory beetles are common inhabitants of home lawns, and many species of ground beetles are attracted to lights. Like wolf spiders, they do not live or breed indoors and only enter buildings as “occasional invaders.” Most enter under or around poorly sealed doors.
Ants	Although their small size makes ants difficult to exclude completely, good physical exclusion practices still help reduce indoor ant invasions. Pruning and trimming limbs or other vegetation that touches the outside of the building is especially helpful in reducing ant invasions.
Cockroaches	American and smoky brown cockroaches are common inhabitants of Mississippi landscapes and will readily move inside, if they can get inside. Good physical exclusion practices help keep these large roaches outdoors. See page 8 of Extension Publication 2443, Control Household Insect Pests: <a href="http://msucare.com/pubs/publications/p2443.pdf">http://msucare.com/pubs/publications/p2443.pdf</a> for additional control methods.
Millipedes	Garden millipedes breed outdoors in leaf litter and grass thatch. Although susceptible to desiccation, millipedes move about freely during periods of wet weather, often accumulating around buildings and entering in large numbers. Although they dry out and die once inside, they still end up inside, unless the building has good exclusion practices in place.
House Flies	Thanks to window screens and air-conditioning, having flies in the house is much less of a problem than it was in yesteryear. Every building occasionally has a few flies inside, but if dozens of flies are getting inside it's time to check for open doors or missing window screens.
<b>Cool Weather Invaders</b>	
Paper Wasps	Paper wasps overwinter as mated females, and attics and wall voids are some of their favorite overwintering sites. Wasps move into these locations in the fall, but infestations often go unnoticed until spring, when wandering wasps end up in the living quarters. Having good physical exclusion in place before hand is the only way to prevent this problem.
Asian Lady Beetles	In the summer these non-native lady beetles are viewed as beneficial insects because they eat large numbers of aphids, but around Halloween the adult beetles start looking for a place to spend the winter and often invade homes by the thousands. Proactive exclusion to seal all cracks greater than 1/16 inch is the best “treatment” for lady beetle invasions.
Kudzu Bugs	Although they have only been in the state for three years, these stink bug-like non-native insects are established through most of the state. Kudzu bugs are about the size of lady beetles and overwinter in a similar manner with large numbers accumulating on the sides of buildings in the fall and finding their way into buildings through cracks and crevices. Proactive exclusion is the best defense against these pests as well. Buildings near patches of kudzu or soybean fields are most likely to experience problems.

Making the house bug-proof by physically sealing potential entry points is the best way to keep unwanted insect, spiders, and other pests from getting into your home. Physical exclusion is safer and more effective than using insecticides, which have to be applied over and over, often with limited results. Physical exclusion provides long-term pest control; it may not keep out every unwanted pest, but it will reduce their numbers.

Although physical bug-proofing can be carried out any time of the year, it is best to do this before the insects get inside. This is especially true for the cool season invaders, which often arrive in large numbers. You will have to act soon because, depending on fall weather conditions, lady beetles and paper wasps usually begin looking for overwintering sites by mid-October, and sometimes earlier. Sealing the exterior of the house after the insects have already gotten into the attic and/or wall voids can actually be counter-productive because insects will be unable to exit the following spring and more will end up making their way into the living quarters.

Every house is unique. Some take very little effort to bug-proof and can be done as a ‘do-it-yourself project’ with a tube of silicone caulking and a can of foam sealant. Others may require a bit of carpentry work to install weather stripping under a door or to replace damaged soffit vents or repair torn screen on gable vents. Some buildings are quite challenging to bug-proof and require extensive work by skilled carpenters. The benefits go beyond just keeping insects, as well as vertebrate pests like lizards and mice, out of the house. Properly sealed homes are also more energy efficient, and that saves money. Just don’t over do it; be sure to maintain adequate ventilation for health and safety.

How small a crack do you need to seal? Lady beetles and kudzu bugs can get through cracks larger than 1/16 inch. Sealing cracks this size and larger will keep out these pests, as well as larger insects such as paper wasps. The following list points out some of the key areas to focus on.

*Gable Vents:* Buildings with gable roofs usually have large vents into the attic at the gable ends. These are usually covered with window screening to prevent insects, as well as larger animals, like rats and squirrels, from getting into the attic. Note, this screen is often located behind louver slats. Torn or missing screening in the gable vents is often a key cause of major attic invasions of lady beetles, paper wasps, and other critters. This is one area you definitely want to check.

*Soffit Vents:* Most buildings have small vents, or a continuous row of venting, installed in the soffit on the undersides of the eaves. Check soffit vents to be sure insect screening is intact and that there are no bug-sized cracks around the edges.

*Ridge Vents:* Many buildings have ridge vents along the roof peak. These are usually not a major point of insect entry unless damaged or improperly installed. Check for leaks and insect-sized cracks.

*Crawl Space Vents:* Lady beetles and paper wasps do not usually overwinter in crawl spaces, but it is still a good idea to check that crawl space vents are intact and properly screened with rodent-proof hardware cloth and insect screen. Excluding large animals, such as cats, dogs, and possums from the crawl space will help reduce potential for flea infestations. It is important to be sure the crawl space is adequately ventilated, especially during the warm months, to reduce potential for wood rot fungi.

*Chimneys:* Around chimneys, water leaks are usually a greater concern than insect leaks. Water leaks are enough of a problem by themselves, but they can also eventually result in insect problems, especially with termites or carpenter ants. Check the flashing to be sure it is intact and properly sealed and check that cracks where the chimney and exterior siding meet are water and insect-proof. This is also a good time to check that the interior of the chimney is free of bird nests and other obstructions, and is otherwise clean and safe for winter use.

*Windows:* Check all window screens to be sure they fit tightly and are not torn. Also check for cracks or crevices around windows and window casings.

*Doors:* Check all exterior doors and use weather stripping, spring steel strips, door sweeps and thresholds, and appropriate sealants and caulking to keep insects from being able to get under or around the door.

*Weep holes in Masonry:* Avoid sealing masonry weep holes unless there is a compelling reason to do so. They are left open intentionally to allow water or moisture to escape from the wall void. Some companies sell special plastic or aluminum screen inserts for use in weep holes.

*Utility Entry Points:* Check around plumbing and utility entry points and around dryer duct exits, air conditioners, and similar sites and seal these if necessary. Copper wool or steel wool is often useful for sealing such places, but various other types of sealants may also work, depending on the situation. Take appropriate precautions when working around electrical wiring.

*Structural Cracks and Crevices:* Check for cracks and crevices around eaves, corners, places where siding overlaps, and other such sites. Insect-sized cracks often occur in areas where two different types of building materials meet. Keep in mind that lady beetles can enter cracks larger than 1/16 inch. Pay particular attention to cracks, crevices or holes in areas where insects are naturally funneled as they crawl up an exterior wall, such as where outside walls meet the undersides of eaves. Installation of molding is one method of sealing such cracks, but methods such as caulking, foam sealant, weather stripping, copper wool, etc. may also be appropriate.

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