

## **Information Summary about MALB**

### **LADYBUG, LADYBUG FLY AWAY FROM MY HOME!**

Dr. Margaret Frericks Huelsman, The OSU IPM Program

For most Ohioans October is a time to gather pumpkins, enjoy cooler temperatures, pick out a costume for Halloween and watch lots of football. But for a growing number of people October has become a month to dread because it marks the arrival of a very unwelcome houseguest, the multicolored Asian lady beetle (MALB). The MALB or ladybug is an insect that originates from various parts of Asian. It was brought to this country because of its voracious appetite for aphids, scale insects and other soft-bodied pests found in many agricultural systems. Indeed the MALB is a great biological control agent lending its services in tree crops (the reason it was brought to this country) and row crops too. Anyone walking through a soybean field during late summer this year saw thousands of the beetles in the field munching on aphids.

Unfortunately the MALB also has a particularly bad habit. The MALB needs to spend the winter months hibernating with large groups of its friends. In its native region this aggregation and hibernation behavior usually occurs on cliff sides and rock faces, uncommon structures in Ohio. Instead, the MALB has chosen to aggregate and hibernate in people's homes. This behavior might not be so bad if they remained in the wall voids and attic, under the vinyl siding or in other inaccessible places during the winter months. However because no house is ever completely sealed up, the MALB makes its way into the living space of the home throughout the winter months attracted to light and the warmer temperatures. On any given day there can be thousands of these beetles flying around the home getting into everything, food, drinks, open mouths. Often times when they land on a person they will "bite" inflicting pain that feels like a severe pinch. Furthermore, when disturbed they "bleed" a foul smelling, yellow-orange fluid that stains just about any surface. As if this nuisance behavior wasn't enough, many people have developed allergies with respiratory or dermal symptoms due to the presence of the MALB in their home.

For years very little was done to deal with the MALB problem because of the desire to preserve this great biological control agent. However the nuisance problem has grown tremendously and now tens of thousands of homes are being invaded each year. During this past summer the Ohio State University (OSU) Integrated Pest Management (IPM) Program decided to take on this problem as a group project. This effort began with a survey of Ohio residents that have experienced MALB infestations. Key points from the survey results showed that the majority of infestation problems occur in southeastern Ohio although the problem is spreading around the state and that not much about the specific features of houses and their surrounding areas was significant except the older

the house and having trees surrounding the house on at least two sides increased the likelihood of a serious infestation. Also most people indicated that the methods used to treat the problem, vacuuming, sealing holes and interior pesticide use were basically ineffective.

The OSU IPM Program has put together a document describing the most promising methods to keep the MALB out of you home or to minimize the nuisance problem once they enter your home. These methods have not been scientifically tested but represent the best ideas given the current understanding of the biology and ecology of the beetle. None of the recommended methods used alone will prove to be 100% effective. However a strategy that combines two or more methods should provide some relief.

It is most important to prevent the MALB from entering your home since it is much harder to deal with them once they are on the inside. Start with the obvious and seal, caulk or screen any holes and cracks around your house paying special attention to areas around windows, doors, siding, utility pipes and vents and under the eaves. You want to deny the MALB any easy access point so replace or repair any damaged screens, install tight-fitting door sweeps and use a rubber seal around the garage door since it seals well in cold weather. You should also think about preventing access from the wall voids into the living spaces of your home. Apply a foam sealant in light switches and outlets, around light fixtures and under baseboards (where the floor meets the wall there can be a gap) and window moldings. All of these areas can provide easy access into the living space of your home for the beetle.

Applying a pyrethroid pesticides such as bifenthrin, deltamethrin, cypermethrin, cyfluthrin, and tralomethrin can help keep the MALB out of your home because they serve as a repellent and will kill any of the beetles that land on the site of application. The pesticides do not need to be broadcast all over the sides of the house but should be targeted on the areas around the windows and doors, along the roof line and around the foundation. Timing of the pesticide treatment, based on an accurate prediction of the MALB's arrival date, is critical to its success. Any of the pesticides listed above should last 10-14 days if it does not rain severely. The beetles generally begin to aggregate in search of an overwintering site on the first warm (above 60(F) day after a wet period that is followed by the first frost. The date when the swarming begins can fall on most any day in October depending on your location. Keep an eye on the weather reports so that you can time your pesticide application properly. There are formulations of these pesticides that can be purchased and applied by the homeowner. However many pesticides are labeled for use only by a certified, licensed applicator. It is illegal for an unlicensed homeowner to apply these pesticides. Read the pesticide label because it is the law and follow label directions. To do otherwise is unlawful and could result in significant health risks.

If you do not want to use pesticides on your home there are some alternatives. As the beetles land on the side of your house you can wash them off with the hose. You will need to repeat this treatment many times during the day when the beetles are swarming and make sure that you clean up the beetles you've killed in the process. Keeping the side of the house wet should act as a repellent since the beetles are seeking a warm, dry place to hibernate. Camphor has also been shown to be an effective repellent against the MALB. Try putting camphor tablets (available in hardware stores and pharmacies) in knee-high nylon stockings and hang the stocking outside the house near a known or suspected entry point. The camphor tablet should last at least two weeks before needing to be replaced.

Another strategy to use in your defense against the MALB is to try and make your house less visible or attractive to the beetles. Whereas the survey results did not indicate that the color of the house affected whether or not it became infested with beetles, the beetles in general prefer lighter colors when given a choice. So if you were planning to paint your home or change the color in any way you may want to consider a darker color. One of the ways that the MALB may orient itself towards certain locations is that they direct themselves to the tallest structure in their field of vision. Removing any unnecessary or nonfunctioning structures (old antennae, windmill) or dead or dying trees that can serve as a beacon attracting the beetles may prove helpful. Another way to camouflage the house is to make sure that you remove all dead beetles and the feces from your home. The scents from dead beetles and/or feces may attract the beetles to a given site. Removing the source of the odor may help hide your home from the MALB.

Once the beetles have gotten into your home there is a variety of trapping options to help you deal with the problem. An USDA researcher from Georgia designed a very effective black light trap that is now available commercially. The trap should be used in a dark room and needs to be dusted with powder or talc frequently to be the most useful. The black light trap can be purchased from H&T Alternative Controls (912-988-9412) for \$140. The OSU IPM program staff also designed a much cheaper alternative black light trap that can be made from items found in a hardware store and around your home. For instructions on how to make the modified black light trap please contact your local county extension office. Another inexpensive alternative is to place yellow or white sticky traps around your home to catch the beetles. Sticky traps come in many forms some of which you can find at your local hardware or home store. To purchase the sticky traps commonly used in agriculture contact Great Lakes IPM (517-268-5693) or Gardens Alive (812-537-8650).

As many of you know the vacuum can be used as a useful tool to trap and eliminate the MALB from your home. If you are vacuuming up large numbers of

beetles you may want to use the method outlined in the OSU Factsheet (also available from your local extension office) to prevent damage to the machine. By inserting a knee-hi nylon stocking into the arm or wand of the vacuum and securing it with a rubber band you can suck up the beetles into the stocking rather than the vacuum itself. The bagged beetles should then be disposed of accordingly. A shop vac or a leaf or snow blower that has a reverse cycle can also be used.

As a very last resort and only in targeted locations should any pesticides be used inside your home. Residual pyrethroid pesticides are the most effective but only when the beetles are directly sprayed or crawl over treated surfaces. Aerosol foggers or bug bombs are not effective against the MALB because they do not affect the majority of beetles that remain hidden and the active ingredient in these products does not work well on lady beetles. These products unnecessarily expose humans and animals to chemicals in indoor environments and can cause persistent indoor pest problems since scavenging pests like carpet beetles will be attracted to the dead insects.

Ladybug season is almost here. By employing one or more of the methods outlined here you should be able to minimize the number of lady beetles in your home. Through on-going participatory research with Ohio citizens and laboratory work, the OSU IPM Program is committed to developing the most effective strategy to deal with the MALB. However, this effort will take time. But as more is learned about the MALB more can be done to efficiently deal with the problem. For more information contact your local county extension office or go to the OSU IPM web page at <http://www.ag.ohio-state.edu/~ipm/>.